

=> d his ful

(FILE 'HOME' ENTERED AT 13:02:51 ON 15 JUN 2006)

FILE 'HCAPLUS' ENTERED AT 13:03:16 ON 15 JUN 2006  
E US20040224251/PN

L1 1 SEA ABB=ON PLU=ON US20040224251/PN  
D SCAN  
SEL RN

FILE 'REGISTRY' ENTERED AT 13:04:43 ON 15 JUN 2006

L2 7 SEA ABB=ON PLU=ON (110-01-0/BI OR 116331-76-1/BI OR  
303177-16-4/BI OR 347193-28-6/BI OR 448220-56-2/BI OR  
5469-26-1/BI OR 81416-37-7/BI)

D SCAN  
E SULFONIUM, TRIPHENYL/CN  
E SULFONIUM, TRIPHENYL-/CN

L3 1 SEA ABB=ON PLU=ON SULFONIUM, TRIPHENYL-/CN  
D SCAN  
D RN

L4 1 SEA ABB=ON PLU=ON 18393-55-0/RN  
D SCAN

FILE 'HCAPLUS' ENTERED AT 13:07:31 ON 15 JUN 2006

L5 25 SEA ABB=ON PLU=ON L4/D OR L4/DP  
L6 75 SEA ABB=ON PLU=ON L4

E TOISHI K/AU  
E TOISHI KOUJI/AU  
L7 8 SEA ABB=ON PLU=ON TOISHI KOUJI/AU  
E UETANI Y/AU

L8 112 SEA ABB=ON PLU=ON UETANI YASUNORI/AU  
L9 1 SEA ABB=ON PLU=ON L7 AND L8

D SCAN  
SEL RN

FILE 'REGISTRY' ENTERED AT 13:13:41 ON 15 JUN 2006

L10 2 SEA ABB=ON PLU=ON (112047-48-0/BI OR 637035-72-4/BI)

FILE 'LREGISTRY' ENTERED AT 13:17:45 ON 15 JUN 2006  
L11 STR

FILE 'REGISTRY' ENTERED AT 13:31:42 ON 15 JUN 2006  
L12 45 SEA SSS SAM L11  
D QUE STAT

L13 4125 SEA SSS FUL L11  
SAV L13 EGW456/A

FILE 'LREGISTRY' ENTERED AT 13:33:44 ON 15 JUN 2006  
L14 STR L11

FILE 'REGISTRY' ENTERED AT 13:41:10 ON 15 JUN 2006  
DIS

FILE 'LREGISTRY' ENTERED AT 13:41:50 ON 15 JUN 2006  
L15 STR L14

FILE 'REGISTRY' ENTERED AT 13:43:14 ON 15 JUN 2006  
L16 0 SEA SUB=L13 SSS SAM L15  
D QUE STAT  
L17 STR L14

FILE 'REGISTRY' ENTERED AT 13:46:24 ON 15 JUN 2006  
L18 0 SEA SUB=L13 SSS SAM L17  
L19 0 SEA SUB=L13 SSS FUL L17  
L20 0 SEA SUB=L13 SSS FUL L15

FILE 'LREGISTRY' ENTERED AT 13:47:37 ON 15 JUN 2006  
L21 STR L11

FILE 'REGISTRY' ENTERED AT 13:51:30 ON 15 JUN 2006  
L22 0 SEA SUB=L13 SSS SAM L21  
L23 0 SEA SUB=L13 SSS FUL L21  
D QUE STAT  
L24 STR L11

FILE 'REGISTRY' ENTERED AT 13:55:08 ON 15 JUN 2006  
L25 50 SEA SSS SAM L24  
L26 SCR 1842 OR 1918  
D SCAN L2  
L27 SCR 1985 OR 2021  
L28 50 SEA SSS SAM L24 AND L27 NOT L26  
L29 SCR 2043 OR 2023 OR 1986  
L30 50 SEA SSS SAM L24 AND L27 NOT (L26 OR L29)  
D QUE STAT  
L31 SCR 2077  
L32 SCR 1992  
L33 50 SEA SSS SAM L24 AND L27 NOT (L26 OR L29 OR L31 OR L32)  
L34 252443 SEA SSS FUL L24 AND L27 NOT (L26 OR L29 OR L31 OR L32)  
SAV TEMP L34 EGW456/A

FILE 'LREGISTRY' ENTERED AT 14:12:59 ON 15 JUN 2006  
L35 STR L15

FILE 'REGISTRY' ENTERED AT 14:13:51 ON 15 JUN 2006  
L36 50 SEA SUB=L34 SSS SAM L35

FILE 'LREGISTRY' ENTERED AT 14:15:17 ON 15 JUN 2006  
L37 STR L17

FILE 'REGISTRY' ENTERED AT 14:15:51 ON 15 JUN 2006  
L38 50 SEA SUB=L34 SSS SAM L37  
D QUE STAT L17  
L39 0 SEA SUB=L34 SSS SAM L17  
D QUE STAT L38  
L40 1097 SEA SUB=L34 SSS FUL L37  
SAV L40 EGW456A/A

FILE 'LREGISTRY' ENTERED AT 14:19:49 ON 15 JUN 2006  
L41 STR

FILE 'REGISTRY' ENTERED AT 14:21:12 ON 15 JUN 2006  
L42 6 SEA SUB=L40 SSS SAM L41

FILE 'LREGISTRY' ENTERED AT 14:23:37 ON 15 JUN 2006

FILE 'REGISTRY' ENTERED AT 14:23:52 ON 15 JUN 2006  
L43 0 SEA SUB=L34 SSS SAM L21

FILE 'LREGISTRY' ENTERED AT 14:24:19 ON 15 JUN 2006  
L44 STR L21

FILE 'REGISTRY' ENTERED AT 14:25:29 ON 15 JUN 2006  
L45 50 SEA SUB=L34 SSS SAM L44  
L46 1775 SEA SUB=L34 SSS FUL L44  
D QUE STAT L24

FILE 'LREGISTRY' ENTERED AT 14:27:15 ON 15 JUN 2006  
L47 STR

FILE 'REGISTRY' ENTERED AT 14:35:28 ON 15 JUN 2006  
L48 50 SEA SUB=L34 SSS SAM L47

L49        1848 SEA SUB=L34 SSS FUL L47  
             SAV L46 EGW456B/A  
             SAV L49 EGW456C/A

FILE 'HCAPLUS' ENTERED AT 14:40:12 ON 15 JUN 2006  
 L50        621 SEA ABB=ON PLU=ON L40  
 L51        3572 SEA ABB=ON PLU=ON L46  
             S L47  
 L52        3835 SEA ABB=ON PLU=ON L49  
 L53        142 SEA ABB=ON PLU=ON L50 AND (L51 OR L52)  
             D SCAN L1  
 L54        9123 SEA ABB=ON PLU=ON (POS OR POSITIV?) (2A) (RESIST OR  
             PHOTORESIST OR PHOTO(W)RESIST)  
 L55        64 SEA ABB=ON PLU=ON L53 AND L54

FILE 'REGISTRY' ENTERED AT 14:50:49 ON 15 JUN 2006  
             D SCAN L10

FILE 'LREGISTRY' ENTERED AT 14:54:33 ON 15 JUN 2006  
 L56        STR

FILE 'REGISTRY' ENTERED AT 15:08:34 ON 15 JUN 2006  
             DIS  
 L57        SCR 2043  
 L58        6 SEA SSS SAM L56 AND L57

FILE 'LREGISTRY' ENTERED AT 15:16:23 ON 15 JUN 2006  
 L59        STR L56

FILE 'REGISTRY' ENTERED AT 15:16:58 ON 15 JUN 2006  
 L60        8 SEA SSS SAM L59 AND L57  
 L61        142 SEA SSS FUL L59 AND L57  
             SAV L61 EGW456D/A

FILE 'LREGISTRY' ENTERED AT 15:20:02 ON 15 JUN 2006  
 L62        STR L59

FILE 'REGISTRY' ENTERED AT 15:21:24 ON 15 JUN 2006  
 L63        8 SEA SUB=L61 SSS SAM L62  
             D SCAN  
             D QUE STAT

FILE 'LREGISTRY' ENTERED AT 15:23:07 ON 15 JUN 2006  
 L64        STR L62

FILE 'REGISTRY' ENTERED AT 15:23:42 ON 15 JUN 2006  
 L65        8 SEA SUB=L61 SSS SAM L64  
             D SCAN

FILE 'REGISTRY' ENTERED AT 15:26:24 ON 15 JUN 2006  
 L66        142 SEA SUB=L61 SSS FUL L64

FILE 'HCAPLUS' ENTERED AT 15:26:24 ON 15 JUN 2006  
 L67        73 SEA ABB=ON PLU=ON L66  
 L68        20 SEA ABB=ON PLU=ON L67 AND L54  
 L69        21 SEA ABB=ON PLU=ON L67 AND ((L50 OR L51 OR L52))  
             D L69 1-21 TI CC

FILE 'REGISTRY' ENTERED AT 16:00:03 ON 15 JUN 2006  
 L70        29 SEA ABB=ON PLU=ON L68 OR L69  
 L71        421694 SEA ABB=ON PLU=ON REPROGR?/SC,SX  
 L72        28 SEA ABB=ON PLU=ON L70 AND L71  
 L73        29 SEA ABB=ON PLU=ON L70 OR L72

FILE 'REGISTRY' ENTERED AT 16:00:03 ON 15 JUN 2006  
 L74        49 SEA SSS SAM L64

FILE 'HCAPLUS' ENTERED AT 16:00:03 ON 15 JUN 2006  
 L75        52 SEA ABB=ON PLU=ON L74  
 L76        5 SEA ABB=ON PLU=ON L55 AND (ALKALI(5A)INSOL?)

	D SCAN		
L77	78 SEA ABB=ON	PLU=ON	L50 AND L54
L78	QUE ABB=ON	PLU=ON	ALICYCL? OR (HETEROCYCL OR
	CARBONYCYCL?	OR HYDROCARBON? (2A) RING)	(3A) (SATD OR
	SATURAT?)		
L79	30 SEA ABB=ON	PLU=ON	L77 AND L78
L80	QUE ABB=ON	PLU=ON	ALKALI (5A) INSOLUBL?
L81	0 SEA ABB=ON	PLU=ON	L79 AND L80
L82	QUE ABB=ON	PLU=ON	HALOGEN OR HALID? OR BROMO OR
	BROMID? OR FLUORO OR FLUORIN?	OR CHLORO OR CHLORID? OR	
	IODO OR IODID?		
L83	12 SEA ABB=ON	PLU=ON	L82 AND L79
L84	1243 SEA ABB=ON	PLU=ON	((L51 OR L52)) AND L54
L85	86 SEA ABB=ON	PLU=ON	L84 AND L78 AND L82
	D QUE		
L86	5 SEA ABB=ON	PLU=ON	L85 AND L80
	D SCAN		
L87	45 SEA ABB=ON	PLU=ON	L73 OR L83 OR L86
L88	QUE ABB=ON	PLU=ON	CARBOCYCL? (2A) (SAT OR SATD OR
	SATURAT?)		
L89	0 SEA ABB=ON	PLU=ON	L84 AND L88 AND L82
L90	19 SEA ABB=ON	PLU=ON	L87 AND 1907-2002/PY, PRY

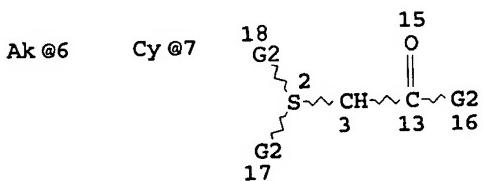
=> => d que stat 190  
L24 STR

**G2**  $\cup$  **G1**  $\cup$  **G2** Ak @6 Cy @7  
1 2 3

```
VAR G1=S/I  
VAR G2=6/7  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS M1-X6 C AT 6  
ECOUNT IS M3-X10 C AT 7
```

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 5

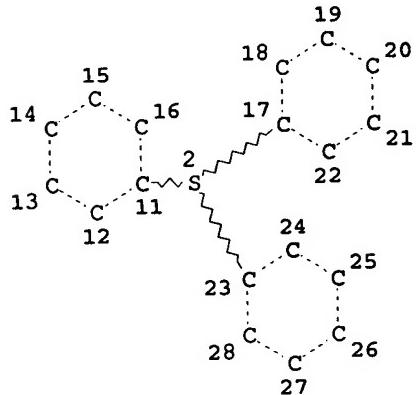
STEREO ATTRIBUTES: NONE  
L26 SCR 1842 OR 1918  
L27 SCR 1985 OR 2021  
L29 SCR 2043 OR 2023 OR 1986  
L31 SCR 2077  
L32 SCR 1992  
L34 252443 SEA FILE=REGISTRY SSS FUL L24 AND L27 NOT (L26 OR L29  
OR L31 OR L32)  
L37 STR



```
VAR G2=6/7
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M1-X6 C AT 6
ECOUNT IS M3-X10 C AT 7
```

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 9

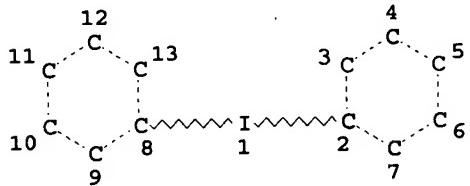
STEREO ATTRIBUTES: NONE  
 L40 1097 SEA FILE=REGISTRY SUB=L34 SSS FUL L37  
 L44 STR



NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 19

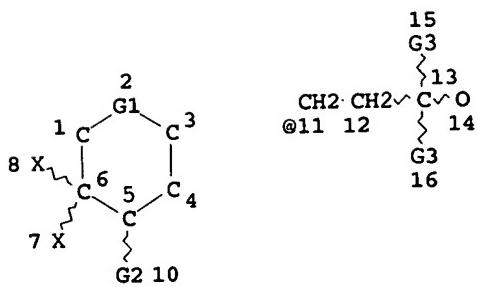
STEREO ATTRIBUTES: NONE  
 L46 1775 SEA FILE=REGISTRY SUB=L34 SSS FUL L44  
 L47 STR



NODE ATTRIBUTES:  
 CONNECT IS E2 RC AT 1  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC I  
 NUMBER OF NODES IS 13

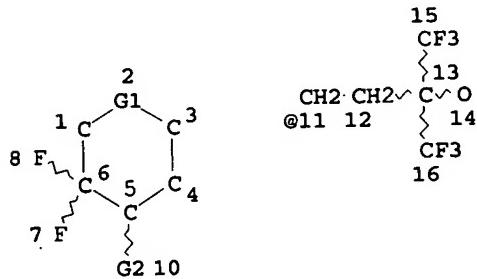
STEREO ATTRIBUTES: NONE  
 L49 1848 SEA FILE=REGISTRY SUB=L34 SSS FUL L47  
 L50 621 SEA FILE=HCAPLUS ABB=ON PLU=ON L40  
 L51 3572 SEA FILE=HCAPLUS ABB=ON PLU=ON L46  
 L52 3835 SEA FILE=HCAPLUS ABB=ON PLU=ON L49  
 L54 9123 SEA FILE=HCAPLUS ABB=ON PLU=ON (POS OR POSITIV?) (2A) (RESIST OR PHOTORESIST OR PHOTO(W)RESIST)  
 L57 SCR 2043  
 L59 STR



REP G1=(0-1) C  
 VAR G2=O/11  
 VAR G3=CCL3/CBR3/CF3/CI3  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE  
 L61 142 SEA FILE=REGISTRY SSS FUL L59 AND L57  
 L64 STR



REP G1=(0-1) C  
 VAR G2=O/OH/11  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE  
 L66 142 SEA FILE=REGISTRY SUB=L61 SSS FUL L64  
 L67 73 SEA FILE=HCAPLUS ABB=ON PLU=ON L66  
 L68 20 SEA FILE=HCAPLUS ABB=ON PLU=ON L67 AND L54  
 L69 21 SEA FILE=HCAPLUS ABB=ON PLU=ON L67 AND ((L50 OR L51  
 OR L52))  
 L70 29 SEA FILE=HCAPLUS ABB=ON PLU=ON L68 OR L69  
 L71 421694 SEA FILE=HCAPLUS ABB=ON PLU=ON REPROGR?/SC,SX  
 L72 28 SEA FILE=HCAPLUS ABB=ON PLU=ON L70 AND L71  
 L73 29 SEA FILE=HCAPLUS ABB=ON PLU=ON L70 OR L72  
 L77 78 SEA FILE=HCAPLUS ABB=ON PLU=ON L50 AND L54  
 L78 QUE ABB=ON PLU=ON ALICYCL? OR (HETEROCYCL OR CARBONC  
 YCL? OR HYDROCARBON? (2A)RING) (3A) (SATD OR SATURAT?)  
 L79 30 SEA FILE=HCAPLUS ABB=ON PLU=ON L77 AND L78  
 L80 QUE ABB=ON PLU=ON ALKALI (5A) INSOLUBL?

L82           QUE ABB=ON PLU=ON HALOGEN OR HALID? OR BROMO OR BROMID? OR FLUORO OR FLUORIN? OR CHLORO OR CHLORID? OR IODO OR IODID?  
 L83           12 SEA FILE=HCAPLUS ABB=ON PLU=ON L82 AND L79  
 L84           1243 SEA FILE=HCAPLUS ABB=ON PLU=ON ((L51 OR L52)) AND L54  
 L85           86 SEA FILE=HCAPLUS ABB=ON PLU=ON L84 AND L78 AND L82  
 L86           5 SEA FILE=HCAPLUS ABB=ON PLU=ON L85 AND L80  
 L87           45 SEA FILE=HCAPLUS ABB=ON PLU=ON L73 OR L83 OR L86  
 L90           19 SEA FILE=HCAPLUS ABB=ON PLU=ON L87 AND 1907-2002/PY, P  
 RY

=> d 190 1-19 ibib abs hitstr hitind

L90 ANSWER 1 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:609279 HCAPLUS

DOCUMENT NUMBER: 141:148104

TITLE: Fluorinated norbornene compounds,  
 silicon-containing derivatives of them,  
 polysiloxanes from them, and  
 radiation-sensitive compositions containing  
 them

INVENTOR(S): Chiba, Takashi; Shimokawa, Tsutomu; Hayashi,  
 Akihiro; Sugie, Norihiko

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 53 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

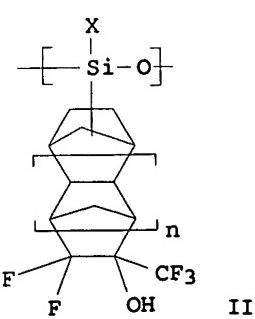
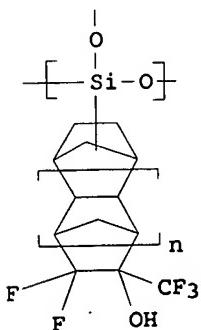
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004210771	A2	20040729	JP 2003-420199	2003 1217

PRIORITY APPLN. INFO.:	-----	JP 2002-365297	A	-----
				2002 1217

OTHER SOURCE(S):	MARPAT 141:148104
GI	

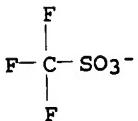


AB The compns., useful for photoresists with good sensitivity to excimer lasers, resolution, and dry-etching resistance, contain the polysiloxanes (Mw 500-1,000,000, which are alkali-insol. but become alkali-soluble by dissociation of acid-labile groups) having units I and/or II [n = 0, 1; X = H, Cl-20 (halogenated) hydrocarbyl, halo, aminol and radiation-sensitive photoacid generators.

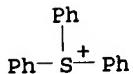
IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate  
144317-44-2, Triphenylsulfonium nonafluoro-n-butanesulfonate 227199-92-0 474516-38-6  
RL: CAT (Catalyst use); USES (Uses)  
(photoacid generator; radiation-sensitive photoresists containing polysiloxanes bearing fluorinated norbornene groups with good sensitivity, resolution, and dry etching resistance)

RN 66003-78-9 HCPLUS  
CN Sulfonium, triphenyl-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 37181-39-8  
CMF C F3 O3 S

CM 2

CRN 18393-55-0  
CMF C18 H15 S

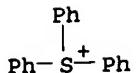
RN 144317-44-2 HCPLUS  
CN Sulfonium, triphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 45187-15-3  
CMF C4 F9 O3 S $-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$ 

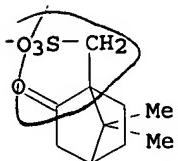
CM 2

CRN 18393-55-0  
CMF C18 H15 S

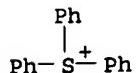


RN 227199-92-0 HCPLUS  
 CN Sulfonium, triphenyl-, salt with 7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

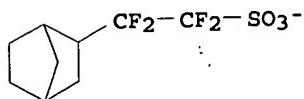
CRN 55077-28-6  
CMF C10 H15 O4 S

CM 2

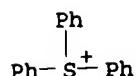
CRN 18393-55-0  
CMF C18 H15 S

RN 474516-38-6 HCPLUS  
 CN Sulfonium, triphenyl-, salt with  $\alpha,\alpha,\beta,\beta$ -tetrafluorobicyclo[2.2.1]heptane-2-ethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 474516-37-5  
CMF C9 H11 F4 O3 S

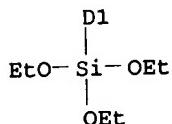
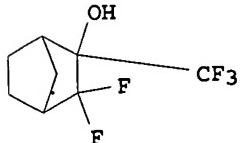
CM 2

CRN 18393-55-0  
CMF C18 H15 S

IT 727425-13-0P 727425-14-1P 727425-16-3P  
 727425-17-4P 727425-19-6P 727425-20-9P  
 727425-22-1P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (radiation-sensitive photoresists containing polysiloxanes bearing fluorinated norbornene groups with good sensitivity, resolution, and dry etching resistance)  
 RN 727425-13-0 HCPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol (9CI) (CA INDEX NAME)

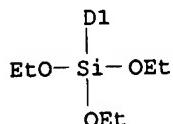
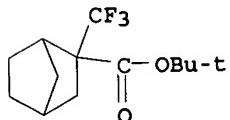
CM 1

CRN 727425-11-8  
 CMF C14 H23 F5 O4 Si  
 CCI IDS



CM 2

CRN 474559-06-3  
 CMF C19 H33 F3 O5 Si  
 CCI IDS



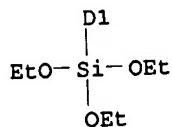
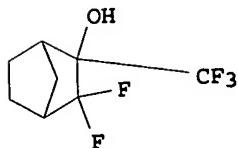
RN 727425-14-1 HCPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

06/15/2006

Egwim 10/667,456

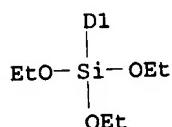
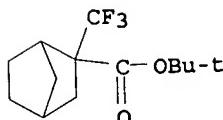
CM 1

CRN 727425-11-8  
CMF C14 H23 F5 O4 Si  
CCI IDS



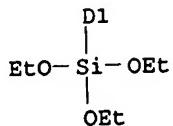
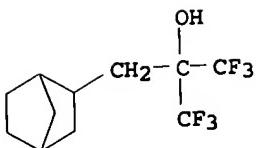
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CRN 474559-06-3  
CMF C19 H33 F3 O5 Si  
CCI IDS



CM 3

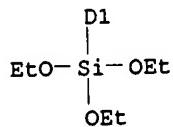
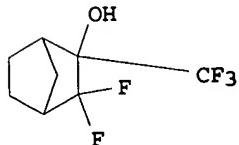
CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



RN 727425-16-3 HCPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with  
 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-  
 (trifluoromethyl)bicyclo[2.2.1]heptan-2-ol and triethoxy[5,5,6(or  
 5,6,6)-trifluoro-6(or 5)-(heptafluoropropoxy)bicyclo[2.2.1]hept-2-  
 yl]silane (9CI) (CA INDEX NAME)

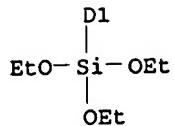
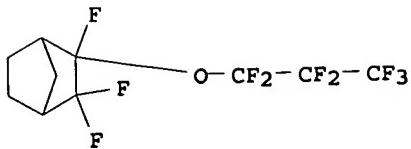
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CRN 727425-11-8  
 CMF C14 H23 F5 O4 Si  
 CCI IDS



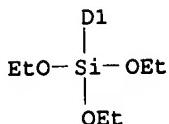
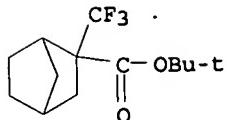
CM 2

CRN 677308-22-4  
 CMF C16 H22 F10 O4 Si  
 CCI IDS



CM 3

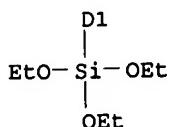
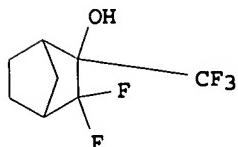
CRN 474559-06-3  
 CMF C19 H33 F3 O5 Si  
 CCI IDS



RN 727425-17-4 HCPLUS  
 CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol and triethoxymethylsilane (9CI) (CA INDEX NAME)

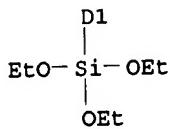
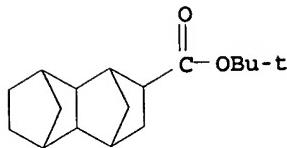
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CRN 727425-11-8  
 CMF C14 H23 F5 O4 Si  
 CCI IDS



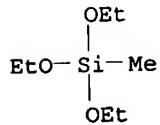
CM 2

CRN 365546-67-4  
 CMF C23 H40 O5 Si  
 CCI IDS



CM 3

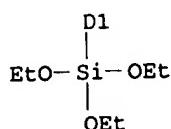
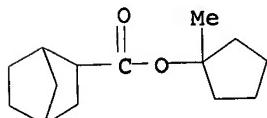
CRN 2031-67-6  
 CMF C7 H18 O3 Si



RN 727425-19-6 HCPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
 , 1-methylcyclopentyl ester, polymer with 3,3-difluoro-5(or  
 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol  
 and triethoxymethylsilane (9CI) (CA INDEX NAME)

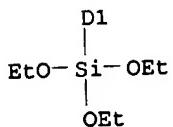
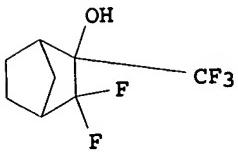
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CRN 727425-18-5  
 CMF C20 H36 O5 Si  
 CCI IDS



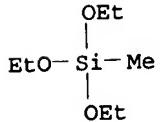
CM 2

CRN 727425-11-8  
 CMF C14 H23 F5 O4 Si  
 CCI IDS



CM 3

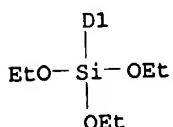
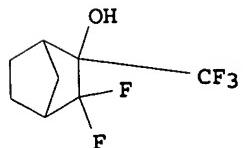
CRN 2031-67-6  
 CMF C7 H18 O3 Si



RN 727425-20-9 HCAPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
 , 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or  
 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol  
 and triethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 727425-11-8  
 CMF C14 H23 F5 O4 Si  
 CCI IDS

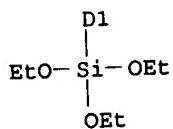
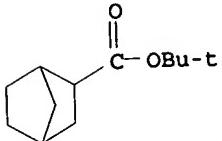


06/15/2006

Egwim 10/667,456

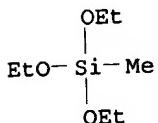
CM 2

CRN 365546-63-0  
CMF C18 H34 O5 Si  
CCI IDS



CM 3

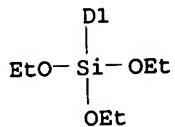
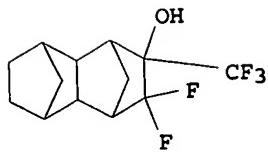
CRN 2031-67-6  
CMF C7 H18 O3 Si



RN 727425-22-1 HCPLUS  
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with  
3,3-difluorodecahydro-6(or 7)-(triethoxysilyl)-2-(trifluoromethyl)-  
1,4:5,8-dimethanonaphthalen-2-ol and 5(or 6)-(triethoxysilyl)-  
 $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-  
ethanol (9CI) (CA INDEX NAME)

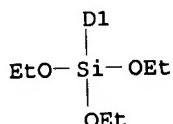
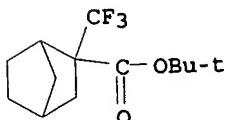
CM 1

CRN 727425-12-9  
CMF C19 H29 F5 O4 Si  
CCI IDS



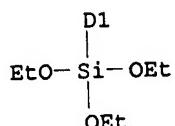
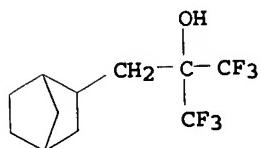
CM 2

CRN 474559-06-3  
 CMF C19 H33 F3 O5 Si  
 CCI IDS



CM 3

CRN 365546-74-3  
 CMF C17 H28 F6 O4 Si  
 CCI IDS



IC ICM C07F007-18  
 ICS C07C035-52; C08G077-24; G03F007-039; G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)

IT Section cross-reference(s): 24, 38  
66003-78-9, Triphenylsulfonium trifluoromethanesulfonate  
144317-44-2, Triphenylsulfonium nonafluoro-n-  
butanesulfonate 227199-92-0 474516-38-6  
RL: CAT (Catalyst use); USES (Uses)  
(photoacid generator; radiation-sensitive photoresists containing  
polysiloxanes bearing fluorinated norbornene groups with good  
sensitivity, resolution, and dry etching resistance)  
IT 727425-13-0P 727425-14-1P 727425-16-3P  
727425-17-4P 727425-19-6P 727425-20-9P  
727425-22-1P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered  
material use); PREP (Preparation); USES (Uses)  
(radiation-sensitive photoresists containing polysiloxanes bearing  
fluorinated norbornene groups with good sensitivity, resolution,  
and dry etching resistance)

190 ANSWER 2 OF 19 HCPLUS COPYRIGHT 2006 ACS on STN

L90 ANSWER 2 OF 19 HCAPLUS CORRECTED  
ACCESSION NUMBER: 2004:389962 HCAPLUS

ACCESSION NUMBER: 2000.011  
DOCUMENT NUMBER: 140:383119

DOCUMENT NUMBER: 110000000000  
TITLE: Chemically amplified positive resist compositions showing stable post-exposure and -coating delay

INVENTOR(S) : Sato, Kenichiro

INVENTOR(S): PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 68 pp.

SOURCE: CODEN: JKXXAF

DOCUMENT TYPE: Patent

DOCUMENT TYPE: Japanese  
LANGUAGE:

**LANGUAGE :  
FAMILY ACT**

**FAMILY ACC. NUM. COUNT. -**  
**PATENT INFORMATION:**

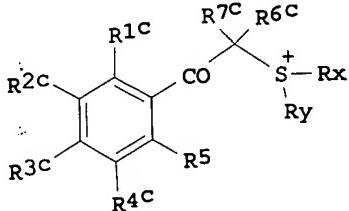
PATENT INFORMATION:

PATENT NO

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004138663	A2	20040513	JP 2002-300750	2002 1015

PRIORITY APPLN. INFO.: JP 2002-300750 2002  
1015

OTHER SOURCE(S) : MARPAT 140:383119  
GI



AB The compns., showing high transparency to far-UV light especially ArF excimer laser light, comprise (A) resins increasing solubility in acids by acid action and having unit  $\text{CH}_2\text{CR}_1\text{CO}_2\text{LZ}$  [ $\text{R}_1 = \text{H}, \text{Me}; \text{L} = \text{single bond, alkylene, ether, ester, and/or CO; Z} = \text{CO}_2\text{H}, \text{OH}, \text{COCH}_2\text{COR}_4$  ( $\text{R}_4 = \text{hydrocarbyl}$ )],  $\text{CH}_2\text{CR}_2\text{ACO}_2\text{ALG}$  ( $\text{R}_2 = \text{H}, \text{Me}; \text{A} = \text{single bond, bridging group; ALG} = \text{prescribed alicyclic substituent etc.}$ ), and  $\text{CH}_2\text{CR}_3\text{A}_3\text{Z}_3(\text{OH})_p$  [ $\text{R}_3 = \text{H}, \text{Me}; \text{A}_3 = \text{single bond, bivalent}$

bridging group; Z3 = (p + 1)-valent alicyclic hydrocarbyl; p = 1-3], (B) radiation-sensitive acid generators I (R1c-R5c = H, alkyl, alkoxy, halo; R6c, R7c = H, alkyl, aryl; Rx, Ry = alkyl, 2-oxoalkyl, alkoxy carbonylmethyl, etc.; X- = sulfonate, carboxylate, sulfonylimide), and (C) solvents.

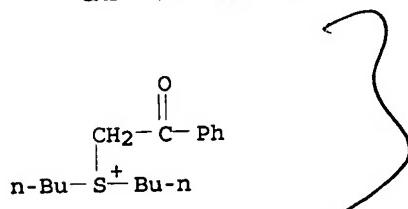
IT 474510-73-1  
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)  
 (photoacid generators; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)

RN 474510-73-1 HCPLUS  
 CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
 (CA INDEX NAME)

CM 1

CRN 45187-15-3  
 CMF C4 F9 O3 S $-O_3S-(CF_2)_3-CF_3$ 

CM 2

CRN 19023-62-2  
 CMF C16 H25 O S

IC ICM G03F007-039  
 ICS C08F220-28; G03F007-004; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 ST amplified pos photoresist post exposure delay stability; argon fluoride excimer transparency pos resist; phenacylsulfonium photoacid generator amplified photoresist process margin  
 IT Photoresists  
 (UV, far-UV, pos.-working; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)  
 IT Resists  
 (pos.-working, chemical amplified; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)  
 IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate  
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)  
 (photoacid generators; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)  
 IT 301664-71-1P 301664-72-2P 398141-19-0P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); TEM

(Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photoacid generators; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)

IT 144317-44-2, Triphenylsulfonium nonafluorobutanesulfonate  
 258872-05-8, Diphenyl(4-tert-butylphenyl)sulfonium nonafluorobutanesulfonate 454471-07-9 454471-11-5  
 470482-89-4 474510-73-1  
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)  
 (photoacid generators; pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)

IT 19158-66-8P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)

IT 683809-88-3P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)

IT 70-11-1, Phenacyl bromide 110-01-0,  
 Tetrahydrothiophene 29420-49-3, Potassium perfluorobutanesulfonate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)

IT 680223-07-8 680223-09-0 683809-90-7 683809-91-8  
 683811-62-3  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (pos. resists showing wide process margin and stable post-exposure and -coating delay for ArF excimer laser-utilized photofabrication)

L90 ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:330252 HCAPLUS  
 DOCUMENT NUMBER: 140:347515  
 TITLE: Silicon compounds, polysiloxanes from them, and radiation-sensitive resin compositions containing the polysiloxanes  
 INVENTOR(S): Chiba, Takashi; Iwasawa, Haruo; Hayashi, Akihiro; Shimokawa, Tsutomu  
 PATENT ASSIGNEE(S): JSR Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 59 pp.  
 CODEN: JKXXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004123793	A2	20040422	JP 2002-285855	2002 0930

PRIORITY APPLN. INFO.:	DATE
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JP 2002-285855	2002 0930

&lt;--

OTHER SOURCE(S): MARPAT 140:347515  
 AB R<sub>1</sub>SiR<sub>2</sub>X<sub>1</sub>C(CH<sub>m</sub>F<sub>3-m</sub>)(CH<sub>n</sub>F<sub>3-n</sub>)OSiR<sub>23</sub> [I; X<sub>1</sub> = (un)substituted C<sub>2</sub>-20 hydrocarbylene; R<sub>1</sub>, R<sub>2</sub> = H, halo, C<sub>1</sub>-20 alkoxy, cycloalkoxy, C<sub>1</sub>-20 (halo)hydrocarbyl; 2 or 3 of R<sub>1</sub> and R<sub>2</sub> = halo, C<sub>1</sub>-20 alkoxy, cycloalkoxy; m, n = 0-3; n + m < 6] are claimed. Polysiloxanes with Mn 500-1,000,000 (based on polystyrene stds., measured by GPC) manufactured by polymerizing I are also claimed. The radiation-sensitive resin compns. contain (a) among the polysiloxanes, those which are insol. or slightly soluble in alkalis, bear acid-dissociable group and become alkali-soluble after the groups are dissociated and (B) radiation-sensitive acid generators. The compns. show high transparency to ≤193-nm light especially 157-nm F<sub>2</sub> excimer laser, high resolution, and good dry-etching resistance.

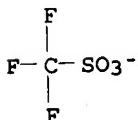
IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate  
 144317-44-2, Triphenylsulfonium nonafluoro-n-butane

sulfonate 227199-92-0 474516-38-6  
 RL: CAT (Catalyst use); USES (Uses)

RN 66003-78-9 HCPLUS  
 CN Sulfonium, triphenyl-, salt with trifluoromethanesulfonic acid  
 (1:1) (9CI) (CA INDEX NAME)

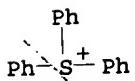
CM 1

CRN 37181-39-8  
 CMF C F3 O3 S



CM 2

CRN 18393-55-0  
 CMF C18 H15 S



RN 144317-44-2 HCPLUS  
 CN Sulfonium, triphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

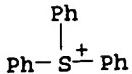
CM 1

CRN 45187-15-3  
 CMF C4 F9 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

CM 2

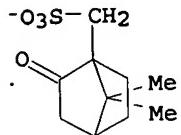
CRN 18393-55-0  
CMF C18 H15 S



RN 227199-92-0 HCPLUS  
CN Sulfonium, triphenyl-, salt with 7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

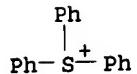
CM 1

CRN 55077-28-6  
CMF C10 H15 O4 S



CM 2

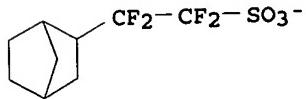
CRN 18393-55-0  
CMF C18 H15 S



RN 474516-38-6 HCPLUS  
CN Sulfonium, triphenyl-, salt with  $\alpha,\alpha,\beta,\beta$ -tetrafluorobicyclo[2.2.1]heptane-2-ethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

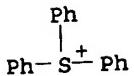
CM 1

CRN 474516-37-5  
CMF C9 H11 F4 O3 S



CM 2

CRN 18393-55-0  
CMF C18 H15 S

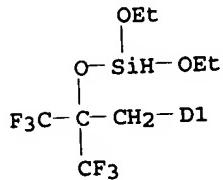
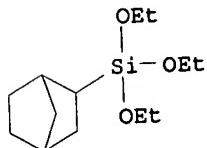


IT 681007-59-0P 681007-62-5P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (silyl ether group-containing compds. and polysiloxanes therefrom for resists with high transmittance to ≤193-nm light and good dry etching resistance)

RN 681007-59-0 HCAPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with [5(or 6)-[2-[(diethoxysilyl)oxy]-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl]triethoxysilane, 5(or 6)-(triethoxysilyl)-α,α-bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol and triethoxy[5,5,6(or 5,6,6)-trifluoro-6(or 5)-(heptafluoropropoxy)bicyclo[2.2.1]hept-2-yl]silane (9CI) (CA INDEX NAME)

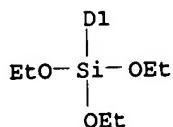
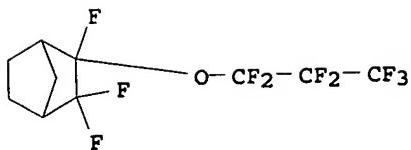
CM 1

CRN 681007-58-9  
 CMF C21 H38 F6 O6 Si2  
 CCI IDS



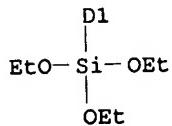
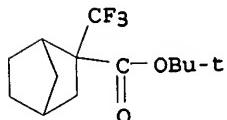
CM 2

CRN 677308-22-4  
 CMF C16 H22 F10 O4 Si  
 CCI IDS



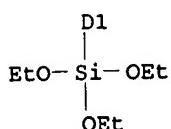
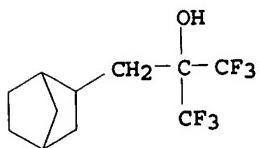
CM 3

CRN 474559-06-3  
 CMF C19 H33 F3 O5 Si  
 CCI IDS



CM 4

CRN 365546-74-3  
 CMF C17 H28 F6 O4 Si  
 CCI IDS

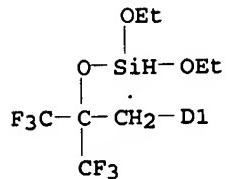
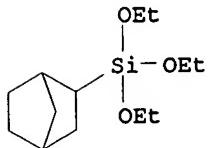


RN 681007-62-5 HCPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with [5(or  
 6)-[2-[diethoxysilyl]oxy]-3,3,3-trifluoro-2-

(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl]triethoxysilane  
and triethoxy[5,5,6(or 5,6,6)-trifluoro-6(or 5)-  
(heptafluoropropoxy)bicyclo[2.2.1]hept-2-yl]silane (9CI) (CA  
INDEX NAME)

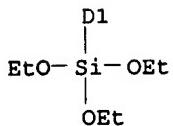
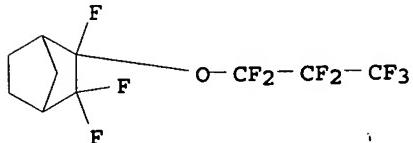
CM 1

CRN 681007-58-9  
CMF C21 H38 F6 O6 Si2  
CCI IDS



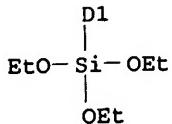
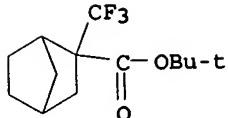
CM 2

CRN 677308-22-4  
CMF C16 H22 F10 O4 Si  
CCI IDS



CM 3

CRN 474559-06-3  
CMF C19 H33 F3 O5 Si  
CCI IDS



IC ICM C08G077-50  
 ICS C07F007-18; G03F007-039; G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 37  
 IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate  
 144317-44-2, Triphenylsulfonium nonafluoro-n-butane  
 sulfonate 227199-92-0 474516-38-6  
 RL: CAT (Catalyst use); USES (Uses)  
 (silyl ether group-containing compds. and polysiloxanes therefrom  
 for resists with high transmittance to ≤193-nm light and  
 good dry etching resistance)  
 IT 681007-59-0P 681007-60-3P 681007-61-4P  
 681007-62-5P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (silyl ether group-containing compds. and polysiloxanes therefrom  
 for resists with high transmittance to ≤193-nm light and  
 good dry etching resistance)

L90 ANSWER 4 OF 19 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2004:287063 HCPLUS  
 DOCUMENT NUMBER: 140:329526  
 TITLE: Fluorine-containing norbornenes, their  
 silicon-containing derivatives, polysiloxanes,  
 with fluorine-containing norbornane backbones,  
 and radiation-sensitive compositions for  
 resists  
 INVENTOR(S): Chiba, Takashi; Shimokawa, Tsutomu; Hayashi,  
 Akihiro  
 PATENT ASSIGNEE(S): JSR Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 81 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004107277	A2	20040408	JP 2002-273899	2002 0919

PRIORITY APPLN. INFO.: JP 2002-273899  
 2002  
0919  
 <--

OTHER SOURCE(S): MARPAT 140:329526  
 GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT

AB The F-containing norbornenes are represented by the general formula I (Z1 = H, F, C1-4 monovalent fluorinated hydrocarbyl; not all of Z1 is H; R1 = CH2OH, AR'; A = O, CF2; R' = C1-10 monovalent hydrocarbyl which may be halogenated or substituted with OH; n = 0, 1). The Si-containing derivs. of I are represented by the general formulas II and III [X1 = H, C1-20 (halogenated) monovalent hydrocarbyl, halo, amino; Y1 = C1-20 (halogenated) monovalent hydrocarbyl, halo, amino, C1-20 alkoxy; Z1 = same as I; x = 0-2 integer, y = 3-5 integer; n = 0, 1]. The polysiloxanes prepared from II and/or III, with polystyrene-based Mw 500-1,000,000 by GPC, is also claimed. The radiation-sensitive resin compns. contain, (A) among the polysiloxanes, those which are insol. or slightly soluble in alkalis, bear acid-dissociable group and become alkali-soluble after the groups are dissociated and (B) radiation-sensitive acid generators.

IT 677308-25-7P 677308-26-8P 677308-28-0P

677308-30-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(F-containing norbornenes, their Si-containing derivs., and polysiloxanes with F-containing norbornane backbones for resists with high transmittance to ≤200-nm radiation)

RN 677308-25-7 HCPLUS

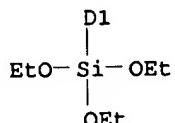
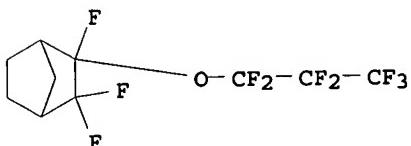
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 5(or 6)-(triethoxysilyl)- $\alpha$ , $\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol and triethoxy[5,5,6(or 6,6,5)-trifluoro-6(or 5)-(heptafluoropropoxy)bicyclo[2.2.1]hept-2-yl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 677308-22-4

CMF C16 H22 F10 O4 Si

CCI IDS

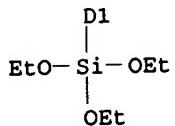
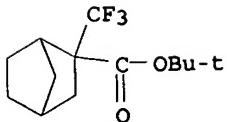


CM 2

CRN 474559-06-3

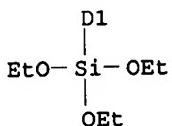
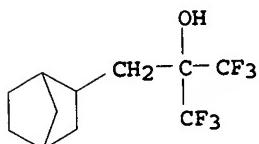
CMF C19 H33 F3 O5 Si

CCI IDS



CM 3

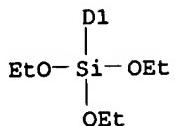
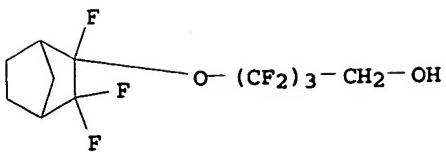
CRN 365546-74-3  
 CMF C17 H28 F6 O4 Si  
 CCI IDS



RN 677308-26-8 HCPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 5(or  
 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.  
 2.1]heptane-2-ethanol and 4-[(2,3,3-trifluoro-5(or  
 6)-(triethoxysilyl)bicyclo[2.2.1]hept-2-yl)oxy]-1-butanol (9CI)  
 (CA INDEX NAME)

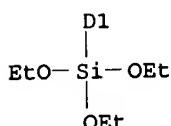
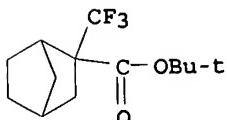
CM 1

CRN 677308-23-5  
 CMF C17 H25 F9 O5 Si  
 CCI IDS



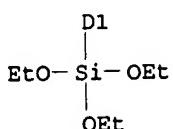
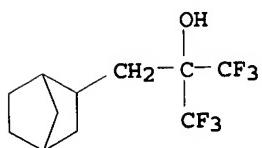
CM 2

CRN 474559-06-3  
 CMF C19 H33 F3 O5 Si  
 CCI IDS



CM 3

CRN 365546-74-3  
 CMF C17 H28 F6 O4 Si  
 CCI IDS

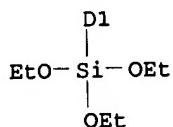
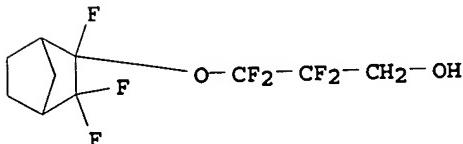


RN 677308-28-0 HCPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with  
 2,2,3,3-tetrafluoro-3-[(2,3,3-trifluoro-5(or 6)-

(triethoxysilyl)bicyclo[2.2.1]hept-2-yl]oxy]-1-propanol and 5(or  
6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.  
2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

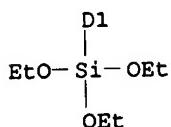
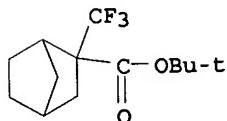
CM 1

CRN 677308-27-9  
CMF C16 H25 F7 O5 Si  
CCI IDS



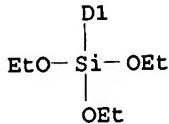
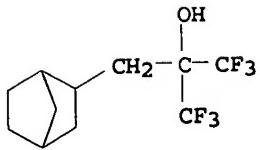
CM 2

CRN 474559-06-3  
CMF C19 H33 F3 O5 Si  
CCI IDS



CM 3

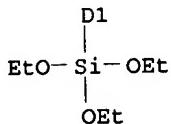
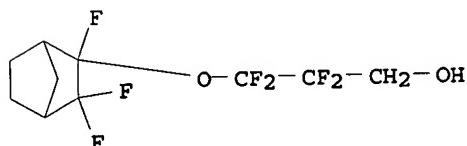
CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



RN 677308-30-4 HCAPLUS  
 CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with  
 2,2,3,3,4,4-hexafluoro-4-[[2,3,3-trifluoro-5(or  
 6)-(triethoxysilyl)bicyclo[2.2.1]hept-2-yl]oxy]-1-butanol,  
 2,2,3,3-tetrafluoro-3-[[2,3,3-trifluoro-5(or 6)-  
 (triethoxysilyl)bicyclo[2.2.1]hept-2-yl]oxy]-1-propanol and 5(or  
 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.  
 2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 677308-27-9  
 CMF C16 H25 F7 O5 Si  
 CCI IDS

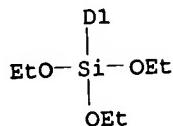
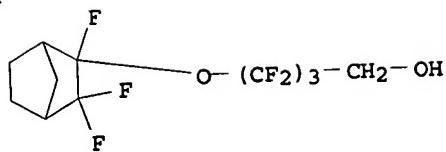


CM 2

CRN 677308-23-5  
 CMF C17 H25 F9 O5 Si  
 CCI IDS

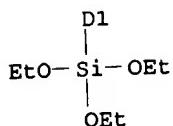
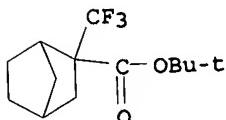
06/15/2006

Egwim 10/667,456



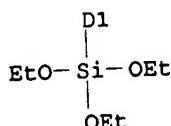
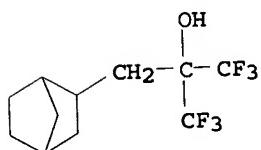
CM 3

CRN 474559-06-3  
CMF C19 H33 F3 O5 Si  
CCI IDS



CM 4

CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



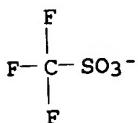
IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate  
144317-44-2, Triphenylsulfonium nonafluoro-n-butane  
sulfonate 227199-92-0 474516-38-6  
RL: CAT (Catalyst use); USES (Uses)

(photoacid generator; F-containing norbornenes, their Si-containing derivs., and polysiloxanes with F-containing norbornane backbones for resists with high transmittance to  $\leq 200\text{-nm}$  radiation)

RN 66003-78-9 HCPLUS  
 CN Sulfonium, triphenyl-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

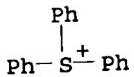
CM 1

CRN 37181-39-8  
 CMF C F3 O3 S



CM 2

CRN 18393-55-0  
 CMF C18 H15 S



RN 144317-44-2 HCPLUS  
 CN Sulfonium, triphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

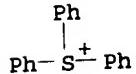
CM 1

CRN 45187-15-3  
 CMF C4 F9 O3 S

$-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$

CM 2

CRN 18393-55-0  
 CMF C18 H15 S

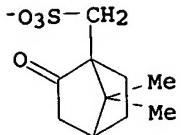


RN 227199-92-0 HCPLUS  
 CN Sulfonium, triphenyl-, salt with 7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

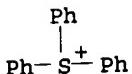
CM 1

CRN 55077-28-6

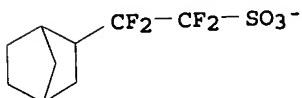
CMF C10 H15 O4 S



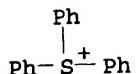
CM 2

CRN 18393-55-0  
CMF C18 H15 SRN 474516-38-6 HCPLUS  
CN Sulfonium, triphenyl-, salt with  $\alpha,\alpha,\beta,\beta$ -tetrafluorobicyclo[2.2.1]heptane-2-ethanesulfonic acid (1:1) (9CI)  
(CA INDEX NAME)

CM 1

CRN 474516-37-5  
CMF C9 H11 F4 O3 S

CM 2

CRN 18393-55-0  
CMF C18 H15 S

IC ICM C07C043-192  
ICS C07C043-196; C07F007-12; C07F007-18; C08G077-14; C08G077-24;  
G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes).  
Section cross-reference(s): 24, 37

IT 677308-25-7P 677308-26-8P 677308-28-0P  
677308-30-4P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered  
material use); PREP (Preparation); USES (Uses)  
(F-containing norbornenes, their Si-containing derivs., and  
polysiloxanes with F-containing norbornane backbones for resists  
with high transmittance to  $\leq 200$ -nm radiation)

IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate

144317-44-2, Triphenylsulfonium nonafluoro-n-butane sulfonate 227199-92-0 474516-38-6  
 RL: CAT (Catalyst use); USES (Uses)  
 (photoacid generator; F-containing norbornenes, their Si-containing derivs., and polysiloxanes with F-containing norbornane backbones for resists with high transmittance to ≤200-nm radiation)

L90 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2006 ACS ON STN

ACCESSION NUMBER: 2004:269885 HCAPLUS

DOCUMENT NUMBER: 140:311995

TITLE: Positive resist

INVENTOR(S): Nishiyama, Fumiuki; Sato, Kenichiro; Kodama, Kunihiko

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: U.S. Pat. Appl. Publ., 56 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

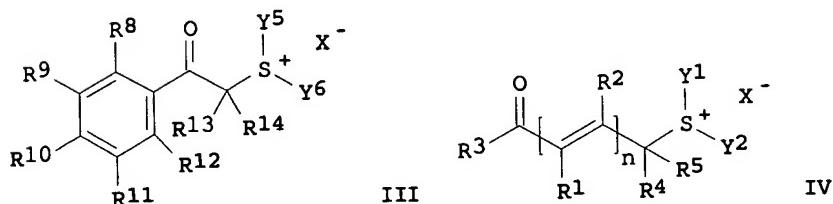
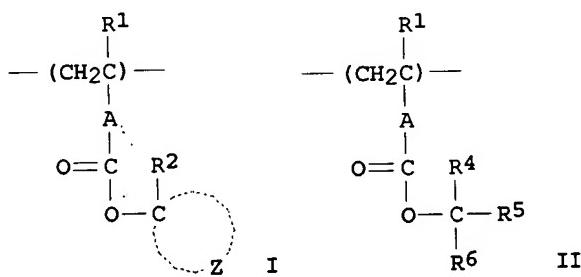
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2004063827	A1	20040401	US 2003-669603	2003 0925
JP 2004145298	A2	20040520	JP 2003-315478	2003 0908
PRIORITY APPLN. INFO.:			JP 2002-287252	A 2002 0930
			JP 2002-287393	A 2002 0930
			<--	

GI



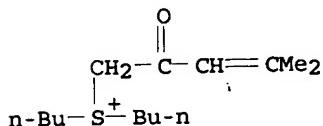
**AB** A pos. resist composition comprising: (A) a resin having alicyclic hydrocarbon groups in side chains, containing repeating units of general formulas I and II (R<sub>1</sub> = H, alkyl; A = linkage group, R<sub>2</sub> = C<sub>1-4</sub>-alkyl; Z = group forming an alicyclic hydrocarbon group together with the carbon atom; R<sub>4-R6</sub> = hydrocarbon group, alicyclic hydrocarbon) which increases the solubility in an alkali developing solution by the action of an acid; and (B) a particular sulfonium compound having a general structures of formulas III and IV (R<sub>1-R3</sub> = H, alkyl, alkenyl, aryl, alkoxy; R<sub>4, R<sub>5</sub></sub> = H, cyano, alkyl, aryl, alkoxy; Y<sub>1, Y<sub>2</sub></sub> = alkyl, aryl, aralkyl, heteroatom-containing aromatic group; n = 1-4; R<sub>8-R12</sub> = H, nitro, halogen, alkyl, alkoxy, alkyloxycarbonyl, aryl, acylamino, with the proviso that at least two of R<sub>8-R12</sub> may be bonded with each other to form a ring; R<sub>13</sub> = H, cyano, alkyl, aryl; R<sub>14</sub> = alkyl, aryl; Y<sub>5, Y<sub>6</sub></sub> = alkyl, aryl, aralkyl, heteroatom-containing aromatic group, Y<sub>5</sub> and Y<sub>6</sub> may be bonded with each other to form a ring; X<sup>-</sup> = non-nucleophilic anion) which is capable of generating an acid upon irradiation with an actinic ray or radiation. The object of the present invention is to provide a pos. resist composition that is used suitably in micro-photofabrication utilizing far UV light, notably ArF excimer laser beam, and offers excellent line edge roughness performance and excellent pattern collapse performance.

**IT** 524959-16-8 610301-07-0 610301-16-1  
RL: TEM (Technical or engineered material use); USES (Uses)  
(photoacid generator; pos. resist composition  
and pattern formation method)

**RN** 524959-16-8 HCPLUS  
**CN** Sulfonium, dibutyl(4-methyl-2-oxo-3-pentenyl)-, salt with  
1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
(CA INDEX NAME)

CM 1

CRN 524959-15-7  
CMF C14 H27 O S



CM 2

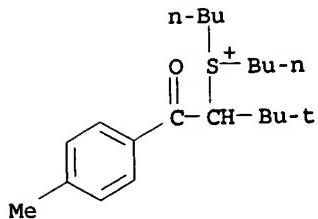
CRN 45187-15-3  
CMF C4 F9 O3 S

 $-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$ 

**RN** 610301-07-0 HCPLUS  
**CN** Sulfonium, dibutyl[2,2-dimethyl-1-(4-methylbenzoyl)propyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

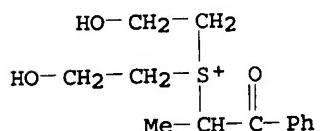
CRN 610301-06-9  
CMF C21 H35 O S



CM 2

CRN 45187-15-3  
CMF C4 F9 O3 S-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>RN 610301-16-1 HCAPLUS  
CN Sulfonium, bis(2-hydroxyethyl)(1-methyl-2-oxo-2-phenylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 610301-15-0  
CMF C13 H19 O3 S

CM 2

CRN 45187-15-3  
CMF C4 F9 O3 S-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

IC ICM C08K005-41  
 INCL 524155000  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 ST pos resist compn photolithog UV pattern formation method  
 IT Polysiloxanes, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (KP-341, Troysol S-366; pos. resist composition and pattern formation method)  
 IT Photolithography  
 (UV; pos. resist composition and pattern formation method)  
 IT Positive photoresists  
 (pos. resist composition and pattern formation)

method)

IT 470482-89-4 524959-11-3 524959-16-8 524959-18-0  
 524959-28-2 610301-07-0 610301-08-1 610301-09-2  
 610301-13-8 610301-16-1 610301-21-8 610301-28-5  
 610301-34-3 676502-09-3 676502-10-6 676502-11-7  
 676502-13-9 676502-14-0 676502-16-2 676502-18-4  
 676502-20-8 676502-22-0 676502-24-2 676502-25-3  
 676502-26-4 676502-27-5 676502-29-7

RL: TEM (Technical or engineered material use); USES (Uses)  
 (photoacid generator; pos. resist composition  
 and pattern formation method)

IT 479081-07-7P 479081-08-8P 479081-10-2P 479081-11-3P  
 479081-12-4P 479081-13-5P 479081-14-6P 479081-15-7P  
 479081-18-0P 479081-19-1P 479081-21-5P 479081-22-6P  
 479081-24-8P 676502-04-8P 676502-05-9P 676502-07-1P  
 676502-08-2P 676522-31-9P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical  
 or engineered material use); PREP (Preparation); USES (Uses)  
 (pos. resist composition and pattern formation  
 method)

IT 60-80-0, Antipyrine 102-82-9, Tri-n-butylamine 3001-72-7,  
 1,5-Diazabicyclo[4.3.0]-5-nonene 9016-45-9, Polyoxyethylene  
 nonyl phenyl ether 24544-04-5, 2,6-Diisopropylaniline  
 36631-19-3, Triphenylimidazole 41556-26-7, Bis(1,2,2,6,6,-penta  
 methyl-4-piperidyl)sebacate 137462-24-9, Megafac F176  
 216679-67-3, Megafac R08  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (pos. resist composition and pattern formation  
 method)

L90 ANSWER 6 OF 19 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:

2004:219910 HCPLUS

DOCUMENT NUMBER:

140:278422

TITLE: Chemical amplification type resist composition

INVENTOR(S): Takata, Yoshiyuki; Yoshida, Isao; Nakanishi,

Hirotoshi

PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan

SOURCE: U.S. Pat. Appl. Publ., 22 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

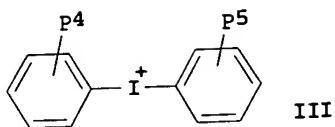
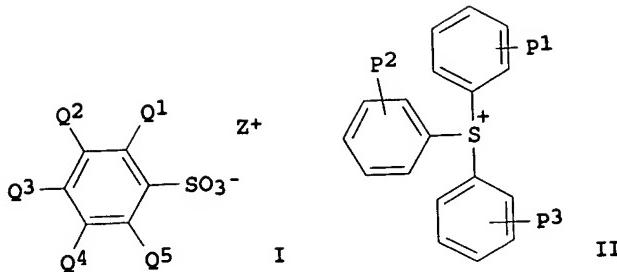
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

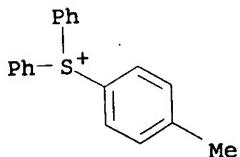
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004053171	A1	20040318	US 2003-657149	2003 0909
CN 1488996	A	20040414	CN 2003-156561	2003 0909
JP 2004126572	A2	20040422	JP 2003-319438	2003 0911
PRIORITY APPLN. INFO.:			JP 2002-266539	A 2002 0912

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OTHER SOURCE(S): MARPAT 140:278422  
 GI



- AB** The present invention provides a chemical amplification type, pos. resist composition comprising (1) a nitrogen containing compound of the formula  $A(-X-N(R_{13})C(=O)R_{14})_n$  or  $A(-X-C(=O)N(R_{15})R_{16})_n$  ( $A$  = alicyclic hydrocarbon group;  $X$  = C1-4 alkylene, single bond;  $R_{13-16}$  = H, C1-12 alkyl, C3-12 cycloalkyl, C1-12 haloalkyl, etc.;  $n$  = 1-5); (2) resin which contains a structural unit having an acid labile group and which itself is insol. or poorly soluble in an alkali aqueous solution but becomes soluble in an alkali aqueous solution by the action of an acid; and (3) an acid generator of the formula I ( $Q_{1-5}$  = H, hydroxyl, C1-6 hydroxyl, C1-12 alkyl, alkoxy;  $Z^+$  = II ( $P_{1-3}$  = H, hydroxyl, C1-6 allyl and allyl and alkoxy), III ( $P_{4,5}$  = H, hydroxyl, C1-6 allyl and alkoxy),  $P_6P_7S^+-CH(P_8)C(=O)P_9$  ( $P_{6,7}$  = C1-6 alkyl, C3-10 cycloalkyl, etc.;  $P_8$  = H;  $P_9$  = C1-6 alkyl, C3-10 cycloalkyl, aromatic group, etc.)).
- IT** 3744-09-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chemical amplification type resist composition containing)
- RN** 3744-09-0 HCAPLUS  
**CN** Sulfonium, (4-methylphenyl)diphenyl-, iodide (9CI) (CA INDEX  
NAME)



● I<sup>-</sup>

- IC** ICM G03C005-00  
**INCL** 430311000  
**CC** 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
**IT** 99-63-8, Isophthaloyl chloride 101-83-7,  
Dicyclohexylamine 108-91-8, Cyclohexylamine, reactions

768-94-5, 1-Adamantanamine 2719-27-9, Cyclohexylcarbonyl  
chloride 3282-30-2, Pivaloyl chloride  
3744-09-0 656823-65-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chemical amplification type resist composition containing)

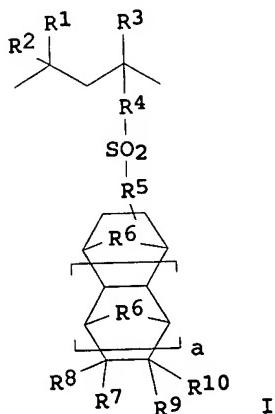
L90 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2004:180145 HCAPLUS  
DOCUMENT NUMBER: 140:225800  
TITLE: Chemically amplified photoresists and method  
for pattern formation  
INVENTOR(S): Harada, Yuji; Hatakeyama, Jun; Kawai, Yoshio;  
Sasako, Masaru; Endo, Masataka; Kishimura,  
Shinji; Maeda, Kazuhiko; Otani, Michitaka;  
Komoritani, Haruhiko  
PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan;  
Matsushita Electric Industrial Co., Ltd.;  
Central Glass Co., Ltd.  
SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004067972	A2	20040304	JP 2002-233045	2002 0809

PRIORITY APPLN. INFO.: <--  
 JP 2002-233045 2002  
 0809

GI



**AB** The photoresists contain polymers of Mw 1000-500,000 having repeating units I [R1-R3 = H, F, (fluorinated) C1-40 alkyl; R4 = single bond, (fluorinated) C1-40 alkylene; R5 = single bond, O, (fluorinated) C1-40 alkylene; R6 = methylene, O, S; R7-R10 = H, F, fluorinated C1-4 alkyl, R11OR12, R11CO2R12, OR12; R11 = single bond, (fluorinated) C1-40 alkylene; R12 = H, acid-labile group; a bond,

= 0, 1]. The photoresists are patternwise exposed to 100-180-nm or 1-30-nm high-energy beams (e.g., F2 laser beams, Ar2 laser beams, soft x rays) and developed (after post-exposure baking).

IT 666258-16-8P 666258-18-0P 666258-19-1P  
666258-20-4P 666258-21-5P 666258-22-6P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chemical amplified pos. photoresists showing high sensitivity to high-energy beams)

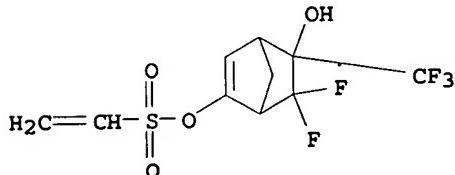
RN 666258-16-8 HCPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with  $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 6,6-difluoro-5-hydroxy-5-(trifluoromethyl)bicyclo[2.2.1]hept-2-en-2-yl ethenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 666258-15-7

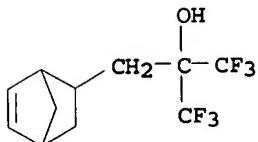
CMF C10 H9 F5 O4 S



CM 2

CRN 196314-61-1

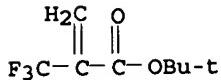
CMF C11 H12 F6 O



CM 3

CRN 105935-24-8

CMF C8 H11 F3 O2

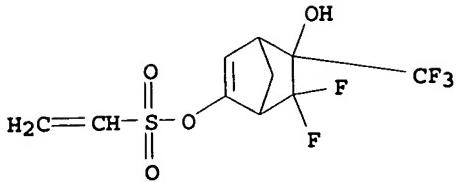


RN 666258-18-0 HCPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with  $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 6,6-difluoro-5-hydroxy-5-(trifluoromethyl)bicyclo[2.2.1]hept-2-en-2-yl ethenesulfonate (9CI) (CA INDEX NAME)

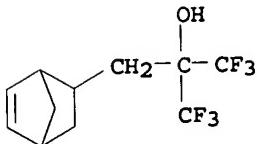
CM 1

CRN 666258-15-7  
 CMF C10 H9 F5 O4 S



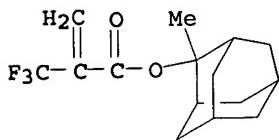
CM 2

CRN 196314-61-1  
 CMF C11 H12 F6 O



CM 3

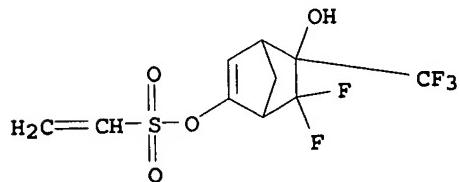
CRN 188739-86-8  
 CMF C15 H19 F3 O2



RN 666258-19-1 HCAPLUS  
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,  
 polymer with 6,6-difluoro-5-hydroxy-5-(trifluoromethyl)bicyclo[2.2.1]hept-2-en-2-yl ethenesulfonate and  
 4-ethenyl- $\alpha,\alpha$ -bis(trifluoromethyl)benzenemethanol  
 (9CI) (CA INDEX NAME)

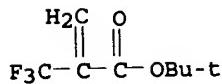
CM 1

CRN 666258-15-7  
 CMF C10 H9 F5 O4 S



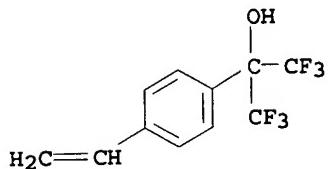
CM 2

CRN 105935-24-8  
CMF C8 H11 F3 O2



CM 3

CRN 2386-82-5  
CMF C11 H8 F6 O

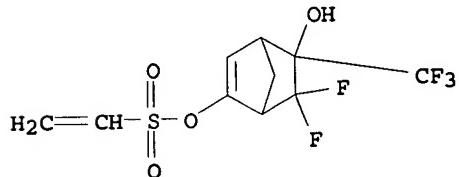


RN 666258-20-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with 6,6-difluoro-5-hydroxy-5-(trifluoromethyl)bicyclo[2.2.1]hept-2-en-2-yl ethenesulfonate and 4-ethenyl- $\alpha,\alpha$ -bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

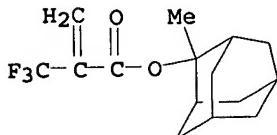
CM 1

CRN 666258-15-7  
CMF C10 H9 F5 04 S



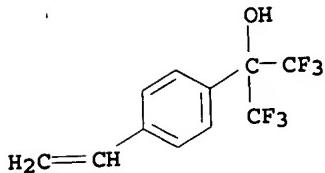
CM 2

CRN 188739-86-8  
CMF C15 H19 F3 02



CM 3

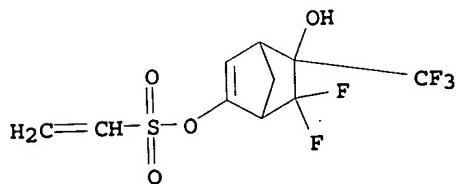
CRN 2386-82-5  
 CMF C11 H8 F6 O



RN 666258-21-5 HCPLUS  
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester,  
 polymer with 6,6-difluoro-5-hydroxy-5-  
 (trifluoromethyl)bicyclo[2.2.1]hept-2-en-2-yl ethenesulfonate and  
 5-ethenyl- $\alpha,\alpha,\alpha',\alpha'$ -  
 tetrakis(trifluoromethyl)-1,3-benzenedimethanol (9CI) (CA INDEX  
 NAME)

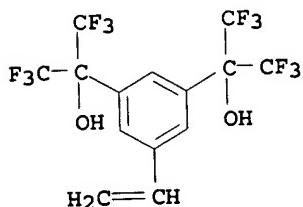
CM 1

CRN 666258-15-7  
 CMF C10 H9 F5 O4 S



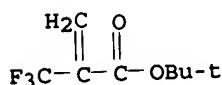
CM 2

CRN 568587-26-8  
 CMF C14 H8 F12 O2



CM 3

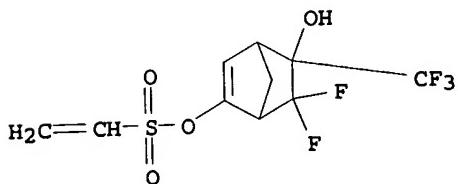
CRN 105935-24-8  
 CMF C8 H11 F3 O2



RN 666258-22-6 HCAPLUS  
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with 6,6-difluoro-5-hydroxy-5-(trifluoromethyl)bicyclo[2.2.1]hept-2-en-2-yl ethenesulfonate and 5-ethenyl- $\alpha,\alpha,\alpha'$ ,.alpha'-tetrakis(trifluoromethyl)-1,3-benzenedimethanol (9CI) (CA INDEX NAME)

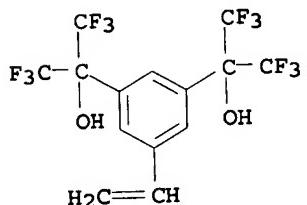
CM 1

CRN 666258-15-7  
 CMF C10 H9 F5 O4 S



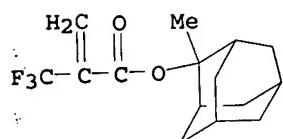
CM 2

CRN 568587-26-8  
 CMF C14 H8 F12 O2



CM 3

CRN 188739-86-8  
 CMF C15 H19 F3 O2



IC ICM C08F028-02  
 ICS C08F212-14; C08F220-22; C08F232-00; G03F007-039; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 ST chem amplified pos photoresist vinylsulfonate  
 fluoropolymer; pattern formation pos photoresist  
 chem amplified  
 IT Photolithography  
 Positive photoresists

- (UV; chemical amplified pos. photoresists  
showing high sensitivity to high-energy beams)
- IT Fluoropolymers, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chemical amplified pos. photoresists showing high sensitivity to high-energy beams)
- IT X-ray resists  
(pos.-working, soft x ray; chemical amplified pos. photoresists showing high sensitivity to high-energy beams)
- IT X-ray lithography  
(soft x ray; chemical amplified pos. photoresists showing high sensitivity to high-energy beams)
- IT 666258-16-8P 666258-18-0P 666258-19-1P  
666258-20-4P 666258-21-5P 666258-22-6P  
666258-24-8P 666258-26-0P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chemical amplified pos. photoresists showing high sensitivity to high-energy beams)

L90 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:1007889 HCAPLUS

DOCUMENT NUMBER: 140:50326

TITLE: Positive resist

composition containing specific multi functional epoxy compound for F2 excimer laser lithography

INVENTOR(S): Toishi, Kouji; Miya, Yoshiko; Uetani, Yasunori

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 20 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2003236351	A1	20031225	US 2003-404671	2003 0402
JP 2004004703	A2	20040108	JP 2003-98932	2003 0402

PRIORITY APPLN. INFO.: JP 2002-101003 A  
2002  
0403

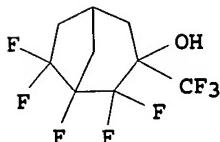
AB The present invention provides a pos. resist composition comprising a resin which itself is insol. or poorly soluble in an alkali aqueous solution but becomes soluble in an alkali aqueous solution by the action of an acid, an acid generator, and multifunctional epoxy compound, wherein the content of halogen atoms in the resin is ≥40%, at least one of structural units constituting the resin is a structural unit having an alicyclic hydrocarbon skeleton, and the structural unit having an alicyclic hydrocarbon skeleton contains therein at least one group rendering the resin soluble in an alkali aqueous solution by the action of an acid, and at least one halogen atom. The composition is suitable for F2 excimer laser lithog. and provides good quality photoresist.

IT 637035-72-4DP, ethoxymethylated  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (resin; pos. resist composition)

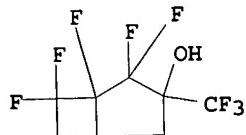
RN 637035-72-4 HCPLUS

CN Bicyclo[3.2.1]octan-3-ol, 1,2,2,7,7-pentafluoro-3-(trifluoromethyl)-, polymer with 1,2,2,7,7-pentafluoro-3-(trifluoromethyl)bicyclo[3.2.0]heptan-3-ol (9CI) (CA INDEX NAME)

CM 1

CRN 637035-71-3  
CMF C9 H8 F8 O

CM 2

CRN 637035-70-2  
CMF C8 H6 F8 O

IC ICM C08F008-00  
 INCL 525107000; 525523000; 525539000; 525416000  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 35

ST pos. resist compn  
 IT Photoresists  
 (pos. resist composition)  
 IT 112047-48-0  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (multi functional epoxy compound; pos. resist composition)  
 IT 637035-72-4DP, ethoxymethylated  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (resin; pos. resist composition)

L90 ANSWER 9 OF 19 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2003:853313 HCPLUS  
 DOCUMENT NUMBER: 139:343478  
 TITLE: Positive-working photosensitive compositions containing aromatic fluorinated sulfonium compounds  
 INVENTOR(S): Kodama, Kunihiro  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent

LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003307838	A2	20031031	JP 2002-112256	2002 0415
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PRIORITY APPLN. INFO.:			JP 2002-112256	2002 0415
---				

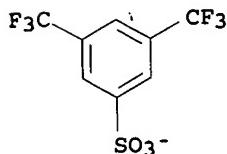
AB The pos.-working resists, suitable for irradiation with far-UV, contain (A1) ionic compds. which generate aromatic sulfonic acids substituted with  $\geq 1$  F and/or  $\geq 1$  F-containing group upon irradiation with actinic ray or radiation, (A2) nonionic compds. which generate acids upon irradiation with actinic ray or radiation, (B) resins having monocyclic or polycyclic alicyclic hydrocarbon structure which are decomposed by acids to show increased solubility in an alkaline developer, and optionally (C) low-mol.-weight dissoln. inhibitor compds. having acid-decomposable group with mol. weight  $\leq 3000$  which show increased solubility in an alkaline developer by acids. The compns. show small line edge roughness.

IT 543698-35-7 543698-52-8  
 RL: CAT (Catalyst use); USES (Uses)  
 (pos.-working resist compns. containing aromatic fluorinated sulfonium compds. and nonionic acid generators with small line edge roughness)

RN 543698-35-7 HCPLUS  
 CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, salt with 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

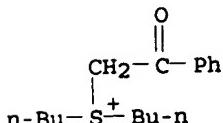
CM 1

CRN 213740-84-2  
 CMF C8 H3 F6 O3 S



CM 2

CRN 19023-62-2  
 CMF C16 H25 O S

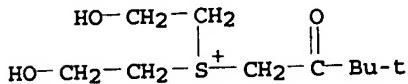


RN 543698-52-8 HCPLUS

CN Sulfonium, (3,3-dimethyl-2-oxobutyl)bis(2-hydroxyethyl)-, salt  
with 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
INDEX NAME)

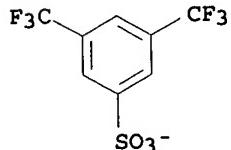
CM 1

CRN 543698-51-7  
CMF C10 H21 O3 S



CM 2

CRN 213740-84-2  
CMF C8 H3 F6 O3 S



IC ICM G03F007-004  
ICS C08F220-18; C08F220-26; C08F232-04; G03F007-039; H01L021-027  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
ST arom fluorine contg sulfonium disulfone photoacid  
generator pos photoresist  
IT Positive photoresists  
(UV; pos.-working resist compns. containing  
aromatic F-containing sulfonium compds. and nonionic acid generators  
for small line edge roughness)  
IT Resists  
(pos.-working; pos.-working resist  
compns. containing aromatic F-containing sulfonium compds. and nonionic  
acid generators for small line edge roughness)  
IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl  
methacrylate copolymer  
RL: SPN (Synthetic preparation); TEM (Technical or engineered  
material use); PREP (Preparation); USES (Uses)  
(pos.-working resist compns. containing aromatic  
F-containing sulfonium compds. and nonionic acid generators for  
small line edge roughness)  
IT 10409-07-1 14159-45-6 41580-58-9 57212-70-1 124737-97-9  
133710-62-0 138529-81-4 138529-84-7 153698-46-5  
168697-66-3 210218-57-8 258341-98-9 307531-76-6  
389859-76-1 398457-16-4 415682-93-8 454471-05-7  
460740-33-4 474511-05-2 508182-57-8 508210-39-7  
524699-48-7 532982-95-9 537015-30-8 537015-31-9  
543698-35-7 543698-45-9 543698-46-0  
543698-52-8 617704-76-4 617704-77-5 617704-78-6  
617704-79-7  
RL: CAT (Catalyst use); USES (Uses)  
(pos.-working resist compns. containing aromatic  
fluorinated sulfonium compds. and nonionic acid  
generators with small line edge roughness)  
IT 289623-64-9P 312620-54-5P 359635-35-1P 366808-82-4P  
391232-36-3P 391613-77-7P 398140-43-7P 398140-45-9P

398140-57-3P 398140-59-5P 398140-68-6P 398140-69-7P  
 398140-77-7P 398140-80-2P 405509-19-5P 471257-28-0P  
 482609-97-2P 508210-04-6P 515876-73-0P 521303-15-1P  
 521303-16-2P 524699-47-6P 574735-94-7P 610300-92-0P  
 610300-96-4P 617704-75-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pos.-working resist compns. containing aromatic fluorinated sulfonium compds. and nonionic acid generators with small line edge roughness)

L90 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2003:818013 HCAPLUS  
 DOCUMENT NUMBER: 139:314471  
 TITLE: Chemically amplified positive  
       -working photoresist composition  
 INVENTOR(S): Miya, Yoshiko; Toishi, Kouji; Hashimoto,  
       Kazuhiko  
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan  
 SOURCE: U.S. Pat. Appl. Publ., 19 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

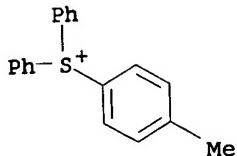
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2003194639	A1	20031016	US 2003-366673	2003 0214
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US 6893792	B2	20050517	JP 2003-39501	2003 0218
JP 2004004561	A2	20040108		
<--				
PRIORITY APPLN. INFO.:			JP 2002-41245	A 2002 0219
<--				
			JP 2002-101002	A 2002 0403
<--				

OTHER SOURCE(S): MARPAT 139:314471  
 AB A pos. resist composition comprises a resin which itself is insol. or poorly soluble in an alkali aqueous solution but becomes soluble in an alkali aqueous solution by the action of an acid, and an acid generator, wherein the content of halogen atoms in the resin is  $\geq 40$  weight%, at least one of structural units constituting the resin is a structural unit having an alicyclic hydrocarbon skeleton, and the structural unit having an alicyclic hydrocarbon skeleton contains therein at least one group rendering the resin soluble in an alkali aqueous solution by the action of an acid, and at least one halogen atom.

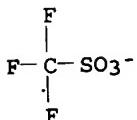
IT 81416-37-7 127820-38-6 177034-80-9  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (chemical amplified pos.-working photoresist composition)

RN 81416-37-7 HCAPLUS  
 CN Sulfonium, (4-methylphenyl)diphenyl-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

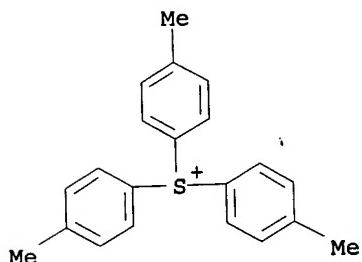
CM 1

CRN 47045-31-8  
CMF C19 H17 S

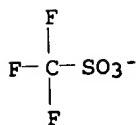
CM 2

CRN 37181-39-8  
CMF C F3 O3 SRN 127820-38-6 HCPLUS  
CN Sulfonium, tris(4-methylphenyl)-, salt with  
trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 47197-43-3  
CMF C21 H21 S

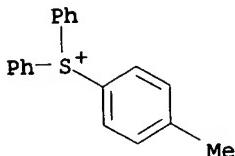
CM 2

CRN 37181-39-8  
CMF C F3 O3 SRN 177034-80-9 HCPLUS  
CN Sulfonium, (4-methylphenyl)diphenyl-, salt with

1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic  
acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 47045-31-8  
CMF C19 H17 S



CM 2

CRN 45298-90-6  
CMF C8 F17 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>7</sub>-CF<sub>3</sub>

IC ICM G03F007-039  
ICS G03F007-004; C23F001-00  
INCL 430270100; 430921000; 430925000; 430914000  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
ST chem amplified pos photoresist fluoropolymer  
alicyclic  
IT Fluoropolymers, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation);  
TEM (Technical or engineered material use); PREP (Preparation);  
USES (Uses)  
(alicyclic; chemical amplified pos.-working  
photoresist composition)  
IT Positive photoresists  
(chemical amplified pos.-working photoresist  
composition)  
IT 3188-13-4DP, Ethoxymethyl chloride, reaction products  
with hydroxy-containing polymers 448220-56-2DP, alkoxyalkylated  
RL: IMF (Industrial manufacture); POF (Polymer in formulation);  
TEM (Technical or engineered material use); PREP (Preparation);  
USES (Uses)  
(chemical amplified pos.-working photoresist  
composition)  
IT 2052-49-5, Tetrabutylammonium hydroxide 24544-04-5,  
2,6-Diisopropylaniline 81416-37-7 127820-38-6  
177034-80-9  
RL: MOA (Modifier or additive use); USES (Uses)  
(chemical amplified pos.-working photoresist  
composition)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L90 ANSWER 11 OF 19 HCPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2003:568820 HCPLUS  
DOCUMENT NUMBER: 139:140959  
TITLE: Chemically amplified positive  
photoresist compositions with good  
developability and post-exposure-delay

INVENTOR(S): stability  
 Nakao, Hajime; Kawabe, Yasumasa; Fujimori,  
 Toru  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 76 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003207885	A2	20030725	JP 2002-3899	2002 0110
US 2003224285	A1	20031204	US 2003-338737	2003 0109

PRIORITY APPLN. INFO.: <--  
 JP 2002-3899 A 2002  
0110  
 <-- JP 2002-3900 A 2002  
0110

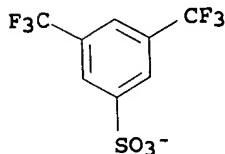
AB The compns. comprise (A) compds. generating aromatic sulfonic acids containing F by irradiation, (B) resins having mono- or poly-alicyclic hydrocarbon structures, which increase their alkali solubility by acid decomposition, and (C) compds. having  $\geq 3$  OH or substituted OH and  $\geq 1$  ring structures.

IT 543698-40-4  
 RL: CAT (Catalyst use); USES (Uses)  
 (photoacid generator; chemical amplified pos.  
 photoresists with good developability and  
 post-exposure-delay stability)

RN 543698-40-4 HCAPLUS  
 CN Sulfonium, bis(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with  
 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
 INDEX NAME)

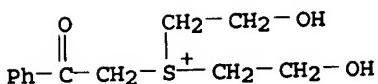
CM 1

CRN 213740-84-2  
 CMF C8 H3 F6 O3 S



CM 2

CRN 201294-87-3  
 CMF C12 H17 O3 S



- IC ICM G03F007-004  
 ICS C07C025-02; C07C381-12; G03F007-039; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 ST pos photoresist chem amplification  
 developability; photoacid generator fluorine sulfonic acid photoresist; cyclic sugar photoresist post exposure stability  
 IT Positive photoresists  
 (chemical amplified pos. photoresists with good developability and post-exposure-delay stability)  
 IT 3744-08-9P, Triphenylsulfonium iodide 19158-66-8P  
 270564-02-8P, Tetramethylammonium pentafluorobenzenesulfonate  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (chemical amplified pos. photoresists with good developability and post-exposure-delay stability)  
 IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate copolymer 288303-55-9P 391232-36-3P  
 391613-77-7P 398140-36-8P 398140-40-4P 398140-43-7P  
 398140-45-9P 398140-47-1P 398140-48-2P 398140-50-6P  
 398140-52-8P 398140-57-3P 398140-59-5P 398140-60-8P  
 398140-64-2P 398140-69-7P 398140-71-1P 398140-72-2P  
 398140-73-3P 398140-74-4P 398140-77-7P 398140-78-8P  
 398140-79-9P 398140-80-2P 405509-18-4P 405509-19-5P  
 405509-25-3P 471257-28-0P 482609-97-2P 500149-64-4P  
 508210-04-6P 515876-73-0P 521303-15-1P 521303-16-2P  
 524699-47-6P 566164-05-4P 566164-06-5P 566164-08-7P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (chemical amplified pos. photoresists with good developability and post-exposure-delay stability)  
 IT 70-11-1, Phenacyl bromide 71-43-2, Benzene, reactions  
 110-01-0, Tetrahydrothiophene 945-51-7, Diphenylsulfoxide  
 2049-95-8, tert-Amylbenzene 4270-70-6, Triphenylsulfonium chloride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (chemical amplified pos. photoresists with good developability and post-exposure-delay stability)  
 IT 270563-92-3 279244-39-2 279244-43-8 279244-45-0  
 335199-99-0 389859-76-1 398457-16-4 454471-05-7  
 474511-05-2 475642-50-3 508182-57-8 508182-59-0  
 524699-48-7 524699-49-8 528605-44-9 537015-31-9  
 543698-39-1 543698-40-4 543698-43-7 543698-44-8  
 543700-40-9 565469-39-8 565469-40-1 565469-43-4  
 565469-44-5 566164-34-9  
 RL: CAT (Catalyst use); USES (Uses)  
 (photoacid generator; chemical amplified pos. photoresists with good developability and post-exposure-delay stability)  
 IT 153698-46-5P 258341-98-9P 270563-96-7P 389859-75-0P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
 (photoacid generator; chemical amplified pos. photoresists with good developability and post-exposure-delay stability)  
 IT 4064-06-6 6286-43-7, 1,2,3-Cyclohexanetriol 7757-38-2  
 18422-53-2 18467-77-1 33159-45-4 81225-67-4 253328-56-2  
 300573-19-7 350255-13-9 566164-09-8 566164-10-1  
 566164-11-2 566164-12-3 566164-13-4 566164-14-5

566164-15-6 566164-16-7 566164-17-8 566164-18-9  
 566164-19-0 566164-20-3 566164-21-4 566164-22-5  
 566164-23-6 566164-24-7 566164-25-8 566164-26-9  
 566164-27-0 566164-28-1 566164-29-2 566164-30-5  
 566164-31-6 566164-32-7 566169-77-5 566169-78-6  
 566169-79-7 566169-80-0 566169-81-1

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (sugar; chemical amplified pos. photoresists  
 with good developability and post-exposure-delay stability)

L90 ANSWER 12 OF 19 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:471003 HCPLUS

DOCUMENT NUMBER: 139:44226

TITLE: Positive-working photoresist  
 composition containing specific acid generator

INVENTOR(S): Kodama, Kunihiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 62 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003173023	A2	20030620	JP 2001-371498	2001 1205

PRIORITY APPLN. INFO.: JP 2001-371498  
 2001  
1205

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AB The title composition contains an actinic ray- or radiation-sensitive acid generator and a resin which has an alicyclic group and increases the solubility in an alkali developer reacting with an acid, wherein the acid generator is a phenacylsulfonium salt or a sulfonium salt without aromatic ring and has an aromatic sulfonate group having F or f-containing substituent. The composition provides high resolution pattern, wide defocus latitude, and the good pattern profile.

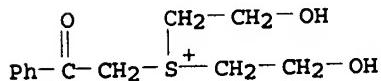
IT 506445-12-1P 543698-35-7P 543698-36-8P  
 543698-40-4P 543698-52-8P 543698-54-0P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acid generator)

RN 506445-12-1 HCPLUS  
 CN Sulfonium, bis(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
 (CA INDEX NAME)

CM 1

CRN 201294-87-3

CMF C12 H17 O3 S



CM 2

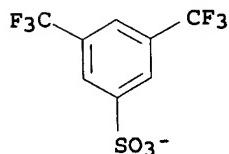
CRN 45187-15-3  
 CMF C4 F9 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

RN 543698-35-7 HCPLUS  
 CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, salt with  
 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
 INDEX NAME)

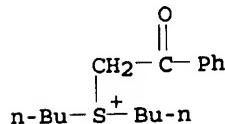
CM 1

CRN 213740-84-2  
 CMF C8 H3 F6 O3 S



CM 2

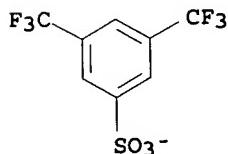
CRN 19023-62-2  
 CMF C16 H25 O S



RN 543698-36-8 HCPLUS  
 CN Sulfonium, dimethyl(2-oxo-2-phenylethyl)-, salt with  
 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
 INDEX NAME)

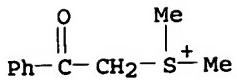
CM 1

CRN 213740-84-2  
 CMF C8 H3 F6 O3 S



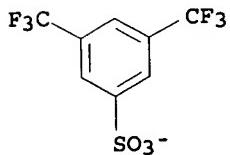
CM 2

CRN 19023-61-1  
 CMF C10 H13 O S

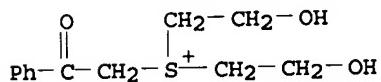


RN 543698-40-4 HCAPLUS  
 CN Sulfonium, bis(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with  
 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
 INDEX NAME)

CM 1

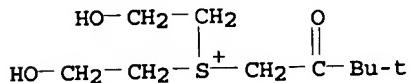
CRN 213740-84-2  
 CMF C8 H3 F6 O3 S

CM 2

CRN 201294-87-3  
 CMF C12 H17 O3 S

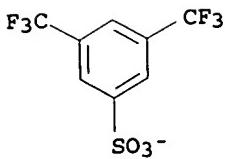
RN 543698-52-8 HCAPLUS  
 CN Sulfonium, (3,3-dimethyl-2-oxobutyl)bis(2-hydroxyethyl)-, salt  
 with 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
 INDEX NAME)

CM 1

CRN 543698-51-7  
 CMF C10 H21 O3 S

CM 2

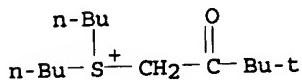
CRN 213740-84-2  
 CMF C8 H3 F6 O3 S



RN 543698-54-0 HCPLUS  
 CN Sulfonium, dibutyl(3,3-dimethyl-2-oxobutyl)-, salt with  
 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
 INDEX NAME)

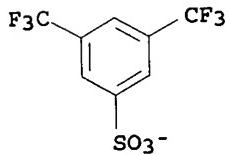
CM 1

CRN 543698-53-9  
 CMF C14 H29 O S



CM 2

CRN 213740-84-2  
 CMF C8 H3 F6 O3 S



IC ICM G03F007-004  
 ICS H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 ST pos photoresist compn generator  
 IT Positive photoresists  
     (pos.-working photoresist composition)  
 IT 70-11-1, Phenacyl bromide 110-01-0,  
 Tetrahydrothiophene 27644-18-4, Propanoyl bromide,  
 2,2-dimethyl 543698-33-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (acid generator)  
 IT 19158-66-8P, Thiophenium, tetrahydro-1-phenacyl-, bromide  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
     (Preparation); RACT (Reactant or reagent)  
     (acid generator)  
 IT 66003-78-9P, Triphenylsulfonium triflate 133710-62-0P  
 138529-81-4P 177034-80-9P 227199-92-0P 241806-75-7P  
 258872-05-8P 284474-28-8P 301664-71-1P 301664-72-2P  
 347193-29-7P 365971-84-2P 391232-40-9P 398141-21-4P  
 454471-05-7P 474511-05-2P 506445-12-1P 508210-39-7P  
 543698-34-6P 543698-35-7P 543698-36-8P  
 543698-37-9P 543698-39-1P 543698-40-4P 543698-41-5P  
 543698-42-6P 543698-43-7P 543698-44-8P 543698-45-9P  
 543698-46-0P 543698-48-2P 543698-49-3P 543698-50-6P  
 543698-52-8P 543698-54-0P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acid generator)

L90 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2003:471002 HCAPLUS  
 DOCUMENT NUMBER: 139:44225  
 TITLE: Chemically amplified positive photoresists of high resolution and allowing wide defocus latitude  
 INVENTOR(S): Kodama, Kunihiko  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 80 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003173022	A2	20030620	JP 2001-371497	2001 1205
<--				
PRIORITY APPLN. INFO.:		JP 2001-371497		
		2001 1205		
<--				

AB The photoresists comprise (A) radiation-sensitive acid generators including (A1) F-containing aromatic sulfonic acid precursors and (A2) phenacylsulfonium and/or alkylsulfonium salts and (B) acid-labile alicyclic hydrocarbon resins increasing solubility in alkalies by acid action. The photoresists suppress sidelobes on patterning through halftone phase-shift masks.

IT 474510-73-1 506445-12-1 543698-35-7

543698-40-4 543698-52-8

RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)

(photoacid generators; pos. photoresists containing sp. two kinds of acid generators and allowing wide defocus latitude)

RN 474510-73-1 HCAPLUS

CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 45187-15-3

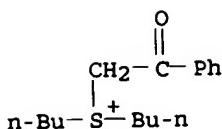
CMF C4 F9 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

CM 2

CRN 19023-62-2

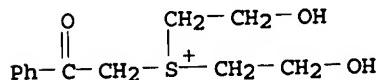
CMF C16 H25 O S



RN 506445-12-1 HCAPLUS  
 CN Sulfonium, bis(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with  
 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
 (CA INDEX NAME)

CM 1

CRN 201294-87-3  
 CMF C12 H17 O3 S



CM 2

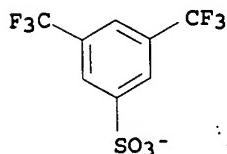
CRN 45187-15-3  
 CMF C4 F9 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

RN 543698-35-7 HCAPLUS  
 CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, salt with  
 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
 INDEX NAME)

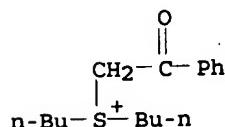
CM 1

CRN 213740-84-2  
 CMF C8 H3 F6 O3 S



CM 2

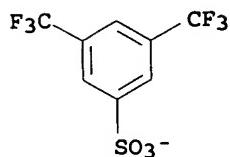
CRN 19023-62-2  
 CMF C16 H25 O S



RN 543698-40-4 HCPLUS  
 CN Sulfonium, bis(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with  
 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
 INDEX NAME)

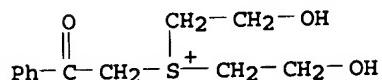
CM 1

CRN 213740-84-2  
 CMF C8 H3 F6 O3 S



CM 2

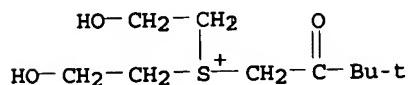
CRN 201294-87-3  
 CMF C12 H17 O3 S



RN 543698-52-8 HCPLUS  
 CN Sulfonium, (3,3-dimethyl-2-oxobutyl)bis(2-hydroxyethyl)-, salt  
 with 3,5-bis(trifluoromethyl)benzenesulfonic acid (1:1) (9CI) (CA  
 INDEX NAME)

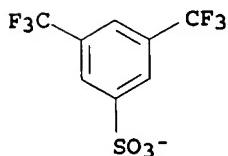
CM 1

CRN 543698-51-7  
 CMF C10 H21 O3 S



CM 2

CRN 213740-84-2  
 CMF C8 H3 F6 O3 S



IC ICM G03F007-004  
 ICS C08F220-18; C08F220-28; C08F222-00; C08F232-00; G03F007-039;  
 H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38

ST photoresist acid generator fluoro substituted sulfonate; phenacylsulfonium alkylsulfonium salt photoresist acid generator

IT Positive photoresists  
 (chemical amplified; pos. photoresists containing sp. two kinds of acid generators and allowing wide defocus latitude)

IT Catalysts  
 (photochem., photoacid generators; pos. photoresists containing sp. two kinds of acid generators and allowing wide defocus latitude)

IT 153698-46-5P 301664-71-1P 301664-72-2P 398141-19-0P  
 543698-33-5P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photoacid generators; pos. photoresists containing sp. two kinds of acid generators and allowing wide defocus latitude)

IT 258341-98-9, Di(4-tert-amylphenyl)iodonium pentafluorobenzenesulfonate 270563-92-3 270563-96-7  
 279244-39-2 279244-50-7 389859-75-0 389859-76-1  
 398141-23-6 398457-16-4 454471-05-7 454471-09-1  
 454471-15-9 474510-73-1 474510-79-7 475642-50-3  
 506445-12-1 508182-57-8 508182-59-0 508210-39-7  
 524699-48-7 524699-49-8 528605-44-9 537015-31-9  
 543698-35-7 543698-39-1 543698-40-4  
 543698-43-7 543698-45-9 543698-52-8 543700-40-9  
 543700-43-2 543700-45-4  
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)  
 (photoacid generators; pos. photoresists containing sp. two kinds of acid generators and allowing wide defocus latitude)

IT 19158-66-8P 270564-02-8P, Tetramethylammonium pentafluorobenzenesulfonate 279218-84-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (pos. photoresists containing sp. two kinds of acid generators and allowing wide defocus latitude)

IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate copolymer 391232-36-3P 398140-57-3P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pos. photoresists containing sp. two kinds of acid generators and allowing wide defocus latitude)

IT 70-11-1, Phenacyl bromide 75-59-2, Tetramethylammonium hydroxide 110-01-0, Tetrahydrothiophene 832-53-1, Pentafluorobenzenesulfonyl chloride 945-51-7, Diphenylsulfoxide 2049-95-8, tert-Amylbenzene 3744-08-9, Triphenylsulfonium iodide 29420-49-3, Potassium perfluorobutanesulfonate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (pos. photoresists containing sp. two kinds of acid generators and allowing wide defocus latitude)

IT 288303-55-9 391613-77-7 398140-36-8 398140-40-4  
 398140-43-7 398140-45-9 398140-47-1 398140-48-2  
 398140-50-6 398140-52-8 398140-59-5 398140-60-8  
 398140-62-0 398140-64-2 398140-65-3 398140-68-6  
 398140-69-7 398140-71-1 398140-72-2 398140-73-3  
 398140-74-4 398140-76-6 398140-77-7 398140-78-8  
 398140-79-9 398140-80-2 405509-18-4 405509-19-5  
 405509-25-3 471257-28-0 482609-97-2 508210-04-6  
 515876-73-0 521303-15-1 521303-16-2 524699-47-6

RL: TEM (Technical or engineered material use); USES (Uses)  
 (pos. photoresists containing sp. two kinds of  
 acid generators and allowing wide defocus latitude)

L90 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2003:282248 HCAPLUS  
 DOCUMENT NUMBER: 138:294918  
 TITLE: Positive photosensitive composition  
 INVENTOR(S): Kodama, Kunihiro  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Eur. Pat. Appl., 85 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1300727	A2	20030409	EP 2002-22234	2002 1002

&lt;--

EP 1300727 A3 20031008  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,  
 EE, SK

JP 2003114522 A2 20030418 JP 2001-307537 2001  
1003

US 2003148206 A1 20030807 US 2002-261655 2002  
1002

2002  
1002

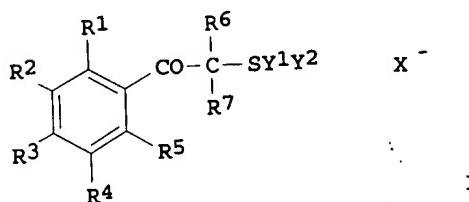
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US 6830867 B2 20041214 JP 2001-307537 A 2001  
1003

PRIORITY APPLN. INFO.:

OTHER SOURCE(S): MARPAT 138:294918

GI



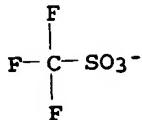
AB A pos. photosensitive composition containing (A) an acid generator capable of generating an acid by irradiation with actinic ray or radiation and having a structure I (R1-5 = H, nitro group, halogen, alkyl, alkoxy, etc.; at least two of R1-5 may combine with each other to form a cyclic structure; R6,7 = H, cyano group, alkyl, aryl; Y1, 2 = alkyl, alkenyl; X- = non-nucleophilic anion) and (B) a resin having a monocyclic or polycyclic alicyclic hydrocarbon structure and being decomposed by the action of an acid hydrocarbon structure and being decomposed by the action of an acid to increase solubility in an alkali developer. The present invention relates to a pos. photosensitive composition used in a manufacturing process of semiconductors, such as ICs, in a process of producing circuit

boards for liquid crystal display and thermal head, and in other photofabrication processes. The invention is concerned with a pos. photosensitive composition suitable for using far UV radiation having a wavelength of not longer than 250 nm or the like as an exposure light source.

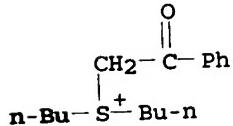
IT 120976-85-4P 474510-73-1P 506445-09-6P  
 506445-12-1P 506445-13-2P 506445-14-3P  
 506445-16-5P 506445-17-6P 506445-19-8P  
 506445-20-1P 506445-21-2P 506445-23-4P  
 506445-24-5P 506445-26-7P 506445-28-9P  
 506445-30-3P 506445-32-5P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acid generator for pos. photosensitive composition for photoresist)

RN 120976-85-4 HCAPLUS  
 CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 37181-39-8  
 CMF C F3 O3 S

CM 2

CRN 19023-62-2  
 CMF C16 H25 O S

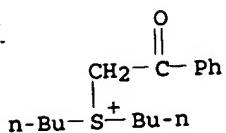
RN 474510-73-1 HCAPLUS  
 CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 45187-15-3  
 CMF C4 F9 O3 S $-\text{O}_3\text{S}-(\text{CF}_2)_3-\text{CF}_3$ 

CM 2

CRN 19023-62-2  
 CMF C16 H25 O S

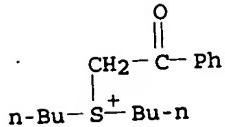


RN 506445-09-6 HCPLUS  
 CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, salt with  
 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-1-octanesulfonic  
 acid (1:1) (9CI) (CA INDEX NAME)

CM 1

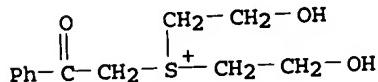
CRN 45298-90-6  
 CMF C8 F17 O3 S $-\text{O}_3\text{S}- (\text{CF}_2)_7-\text{CF}_3$ 

CM 2

CRN 19023-62-2  
 CMF C16 H25 O S

RN 506445-12-1 HCPLUS  
 CN Sulfonium, bis(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with  
 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
 (CA INDEX NAME)

CM 1

CRN 201294-87-3  
 CMF C12 H17 O3 S

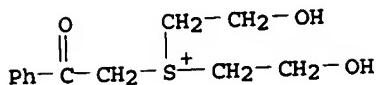
CM 2

CRN 45187-15-3  
 CMF C4 F9 O3 S $-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$ 

RN 506445-13-2 HCPLUS  
 CN Sulfonium, bis(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with  
 trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

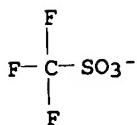
CM 1

CRN 201294-87-3  
CMF C12 H17 O3 S



CM 2

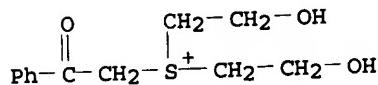
CRN 37181-39-8  
CMF C F3 O3 S



RN 506445-14-3 HCAPLUS  
CN Sulfonium, bis(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with  
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-1-octanesulfonic  
acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 201294-87-3  
CMF C12 H17 O3 S



CM 2

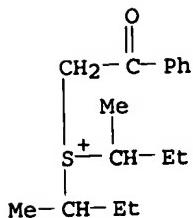
CRN 45298-90-6  
CMF C8 F17 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>7</sub>-CF<sub>3</sub>

RN 506445-16-5 HCAPLUS  
CN Sulfonium, bis(1-methylpropyl)(2-oxo-2-phenylethyl)-, salt with  
1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
(CA INDEX NAME)

CM 1

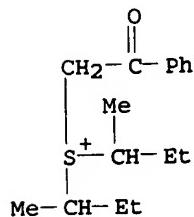
CRN 506445-15-4  
CMF C16 H25 O S



CM 2

CRN 45187-15-3  
CMF C4 F9 O3 S $-\text{O}_3\text{S}-(\text{CF}_2)_3-\text{CF}_3$ RN 506445-17-6 HCAPLUS  
CN Sulfonium, bis(1-methylpropyl)(2-oxo-2-phenylethyl)-, salt with  
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic  
acid (1:1) (9CI) (CA INDEX NAME)

CM 1

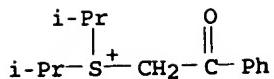
CRN 506445-15-4  
CMF C16 H25 O S

CM 2

CRN 45298-90-6  
CMF C8 F17 O3 S $-\text{O}_3\text{S}-(\text{CF}_2)_7-\text{CF}_3$ RN 506445-19-8 HCAPLUS  
CN Sulfonium, bis(1-methylethyl)(2-oxo-2-phenylethyl)-, salt with  
1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
(CA INDEX NAME)

CM 1

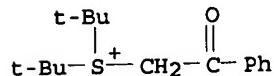
CRN 506445-18-7  
CMF C14 H21 O S



CM 2

CRN 45187-15-3  
CMF C4 F9 O3 S $-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$ RN 506445-20-1 HCAPLUS  
CN Sulfonium, bis(1,1-dimethylethyl)(2-oxo-2-phenylethyl)-, salt with  
1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
(CA INDEX NAME)

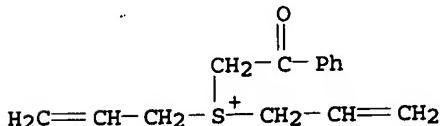
CM 1

CRN 153148-37-9  
CMF C16 H25 O S

CM 2

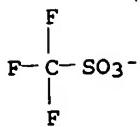
CRN 45187-15-3  
CMF C4 F9 O3 S $-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$ RN 506445-21-2 HCAPLUS  
CN Sulfonium, (2-oxo-2-phenylethyl)di-2-propenyl-, salt with  
trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 153126-87-5  
CMF C14 H17 O S

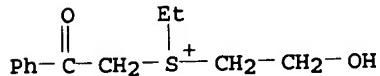
CM 2

CRN 37181-39-8  
CMF C F3 O3 S



RN 506445-23-4 HCPLUS  
 CN Sulfonium, ethyl(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with  
 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
 (CA INDEX NAME)

CM 1

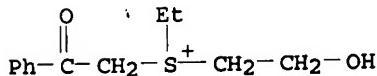
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CMF C12 H17 O2 S

CM 2

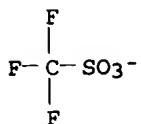
CRN 45187-15-3  
CMF C4 F9 O3 S $-\text{O}_3\text{S}-(\text{CF}_2)_3-\text{CF}_3$ 

RN 506445-24-5 HCPLUS  
 CN Sulfonium, ethyl(2-hydroxyethyl)(2-oxo-2-phenylethyl)-, salt with  
 trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

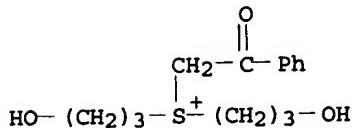
CRN 506445-22-3  
CMF C12 H17 O2 S

CM 2

CRN 37181-39-8  
CMF C F3 O3 S

RN 506445-26-7 HCPLUS  
 CN Sulfonium, bis(3-hydroxypropyl)(2-oxo-2-phenylethyl)-, salt with  
 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
 (CA INDEX NAME)

CM 1

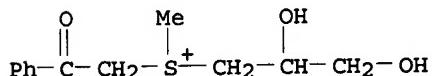
CRN 506445-25-6  
CMF C14 H21 O3 S

CM 2

CRN 45187-15-3  
CMF C4 F9 O3 S-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

RN 506445-28-9 HCPLUS  
 CN Sulfonium, (2,3-dihydroxypropyl)methyl(2-oxo-2-phenylethyl)-, salt  
 with 1,1,2,2,3,3,4,4-nonafluoro-1-butanesulfonic acid (1:1)  
 (9CI) (CA INDEX NAME)

CM 1

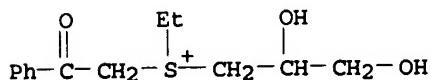
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CMF C12 H17 O3 S

CM 2

CRN 45187-15-3  
CMF C4 F9 O3 S-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

RN 506445-30-3 HCPLUS  
 CN Sulfonium, (2,3-dihydroxypropyl)ethyl(2-oxo-2-phenylethyl)-, salt  
 with 1,1,2,2,3,3,4,4-nonafluoro-1-butanesulfonic acid (1:1)  
 (9CI) (CA INDEX NAME)

CM 1

CRN 506445-29-0  
CMF C13 H19 O3 S

CM 2

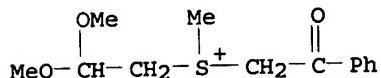
CRN 45187-15-3  
 CMF C4 F9 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

RN 506445-32-5 HCAPLUS  
 CN Sulfonium, (2,2-dimethoxyethyl)methyl(2-oxo-2-phenylethyl)-, salt  
 with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1)  
 (9CI) (CA INDEX NAME)

CM 1

CRN 506445-31-4  
 CMF C13 H19 O3 S



CM 2

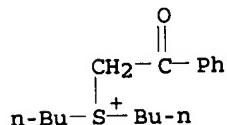
CRN 45187-15-3  
 CMF C4 F9 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

IT 24806-61-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation of acid generator for pos. photosensitive composition)  
 RN 24806-61-9 HCAPLUS  
 CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, tetrafluoroborate(1-)  
 (9CI) (CA INDEX NAME)

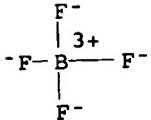
CM 1

CRN 19023-62-2  
 CMF C16 H25 O S



CM 2

CRN 14874-70-5  
 CMF B F4  
 CCI CCS



IC ICM G03F007-004  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 35, 38  
 ST pos photosensitive compn photoresist  
 IT Photoresists  
 (pos. photosensitive composition for)  
 IT 120976-85-4P 474510-73-1P 506445-09-6P  
 506445-10-9P 506445-11-0P 506445-12-1P  
 506445-13-2P 506445-14-3P 506445-16-5P  
 506445-17-6P 506445-19-8P 506445-20-1P  
 506445-21-2P 506445-23-4P 506445-24-5P  
 506445-26-7P 506445-28-9P 506445-30-3P  
 506445-32-5P 506445-34-7P 506445-36-9P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (acid generator for pos. photosensitive composition for photoresist)  
 IT 70-11-1, Phenacyl bromide 544-40-1, Di-n-butylsulfide  
 29420-49-3, Potassium nonafluorobutanesulfonate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of acid generator for pos. photosensitive composition)  
 IT 24806-61-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation of acid generator for pos. photosensitive composition)

L90 ANSWER 15 OF 19 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2002:868986 HCPLUS  
 DOCUMENT NUMBER: 137:370796  
 TITLE: Radiation-sensitive polysiloxane resin  
 composition  
 INVENTOR(S): Iwasawa, Haruo; Hayashi, Akihiro; Shimokawa,  
 Tsutomu; Yamamoto, Masafumi  
 PATENT ASSIGNEE(S): JSR Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 155 pp.  
 CODEN: PIXXD2  
 /  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

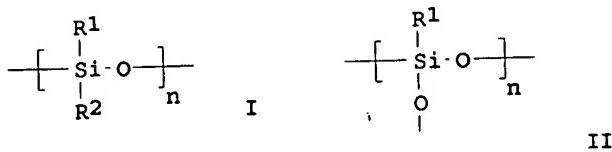
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2002090423	A1	20021114	WO 2002-JP4333	2002 0430

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 CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,  
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR,  
 KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
 MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI,  
 SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU,  
 ZA, ZM, ZW  
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 BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,  
 NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,

ML, MR, NE, SN, TD, TG JP 2003020335	A2	20030124	JP 2002-48643	
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		WO 2002-JP4333	W	
				2002 0430
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OTHER SOURCE(S): MARPAT 137:370796  
GI



AB A radiation-sensitive resin composition excellent in sensitivity and resolution, is composed of (A) a polysiloxane resin exhibiting high transparency even at a wavelength  $\leq 193$  nm (particularly 157 nm), excellent dry etching resistance,  $M_w = 500 - 1,000,000$ , and PDI  $\leq 1.5$  which comprises units represented by the I and/or II and acid-dissociable groups (wherein R1 is a fluorinated or fluoroalkylated monovalent aromatic group or a fluorinated or fluoroalkylated monovalent alicyclic group; and R2 is a monovalent aromatic group described above, a monovalent alicyclic group, described above, H, halogeno, a monovalent hydrocarbon group, haloalkyl, or amino), and (B) a radiation-sensitive acid generator. Thus, 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-(triethoxysilyl)-, 1,1-dimethylethyl ester, 2-(2,2-ditrifluoromethyl)norbornanyltriethoxysilane, and pentafluorophenyltriethoxysilane synthesized from pentafluorobenzene and tetraethoxysilane were polymerized to obtain a polysiloxane with transparent ratio at 157 nm 57.0 %, Tg 103°.

IT 144317-44-2, Triphenylsulfonium nonafluoro-n-butanesulfonate 194999-82-1 345580-99-6, uses  
 474516-38-6 474516-46-6 474516-50-2  
 RL: CAT (Catalyst use); USES (Uses)  
 (radiation-sensitive polysiloxane resin composition)

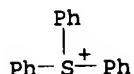
RN 144317-44-2 HCAPLUS

CN Sulfonium, triphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 45187-15-3  
CMF C4 F9 O3 S $-O_3S-(CF_2)_3-CF_3$ 

CM 2

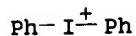
CRN 18393-55-0  
CMF C18 H15 S

RN 194999-82-1 HCAPLUS  
 CN Iodonium, diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 45187-15-3  
CMF C4 F9 O3 S $-O_3S-(CF_2)_3-CF_3$ 

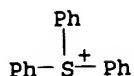
CM 2

CRN 10182-84-0  
CMF C12 H10 I

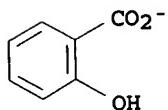
RN 345580-99-6 HCAPLUS  
 CN Sulfonium, triphenyl-, salt with 2-hydroxybenzoic acid (1:1) (9CI)  
 (CA INDEX NAME)

CM 1

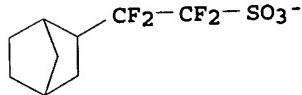
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CMF C18 H15 S



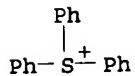
CM 2

CRN 63-36-5  
CMF C7 H5 O3RN 474516-38-6 HCPLUS  
CN Sulfonium, triphenyl-, salt with  $\alpha,\alpha,\beta,\beta$ -tetrafluorobicyclo[2.2.1]heptane-2-ethanesulfonic acid (1:1) (9CI)  
(CA INDEX NAME)

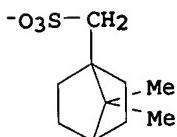
CM 1

CRN 474516-37-5  
CMF C9 H11 F4 O3 S

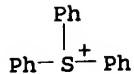
CM 2

CRN 18393-55-0  
CMF C18 H15 SRN 474516-46-6 HCPLUS  
CN Sulfonium, triphenyl-, salt with 7,7-dimethylbicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

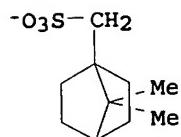
CM 1

CRN 183208-86-8  
CMF C10 H17 O3 S

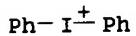
CM 2

CRN 18393-55-0  
CMF C18 H15 SRN 474516-50-2 HCPLUS  
CN Iodonium, diphenyl-, salt with 7,7-dimethylbicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 183208-86-8  
CMF C10 H17 O3 S

CM 2

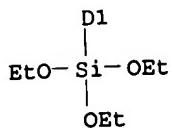
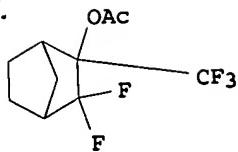
CRN 10182-84-0  
CMF C12 H10 IIT 474657-66-4P 474657-67-5P 474657-69-7P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation);  
PRP (Properties); PREP (Preparation); USES (Uses)  
(radiation-sensitive polysiloxane resin composition)RN 474657-66-4 HCPLUS  
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with  
3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]hept-2-yl acetate and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 474559-49-4  
CMF C16 H25 F5 O5 Si  
CCI IDS

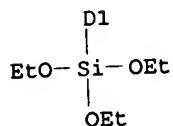
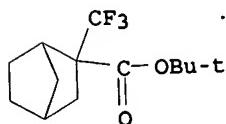
06/15/2006

Egwim 10/667,456



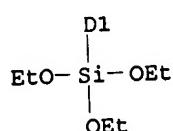
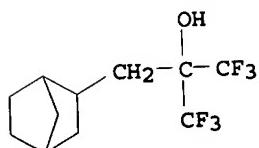
CM 2

CRN 474559-06-3  
CMF C19 H33 F3 O5 Si  
CCI IDS



CM 3

CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS

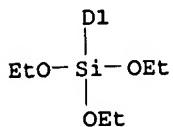
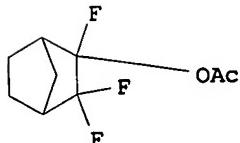


RN 474657-67-5 HCPLUS  
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 5(or  
6)-(triethoxysilyl)- $\alpha$ , $\alpha$ -bis(trifluoromethyl)bicyclo[2.

2.1]heptane-2-ethanol and 2,3,3-trifluoro-5(or  
6)-(triethoxysilyl)bicyclo[2.2.1]hept-2-yl acetate (9CI) (CA  
INDEX NAME)

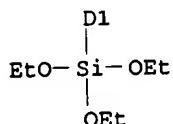
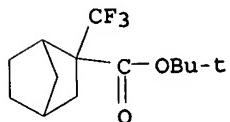
CM 1

CRN 474559-50-7  
CMF C15 H25 F3 O5 Si  
CCI IDS



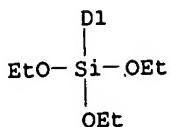
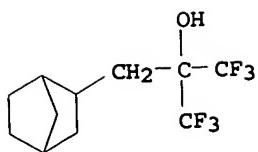
CM 2

CRN 474559-06-3  
CMF C19 H33 F3 O5 Si  
CCI IDS



CM 3

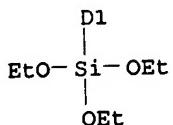
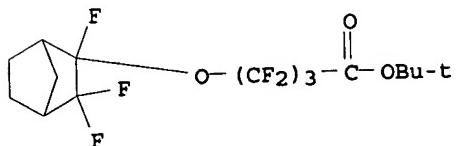
CRN 365546-74-3  
CMF C17 H28 F6 O4 Si  
CCI IDS



RN 474657-69-7 HCAPLUS  
 CN Butanoic acid, 2,2,3,3,4,4-hexafluoro-4-[[2,3,3-trifluoro-5(or 6)-(triethoxysilyl)bicyclo[2.2.1]-hept-2-yl]oxy]-, 1,1-dimethyl ester, polymer with 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

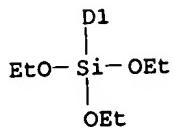
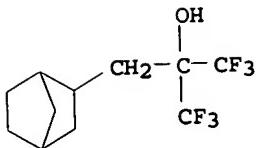
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CRN 474559-52-9  
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 CCI IDS

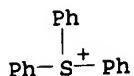


CM 2

CRN 365546-74-3  
 CMF C17 H28 F6 O4 Si  
 CCI IDS



IT 4270-70-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (radiation-sensitive polysiloxane resin composition)  
 RN 4270-70-6 HCPLUS  
 CN Sulfonium, triphenyl-, chloride (8CI, 9CI) (CA INDEX NAME)

● Cl<sup>-</sup>

IC ICM C08G077-24  
 ICS C08L083-08; G03F007-075; G03F007-039  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 35  
 IT 121-44-8, Triethylamine, uses 144-62-7, Oxalic acid, uses  
 144317-44-2, Triphenylsulfonium nonafluoro-n-  
 butanesulfonate 194999-82-1 345580-99-6, uses  
 474516-38-6 474516-40-0 474516-42-2  
 474516-46-6 474516-48-8 474516-50-2  
 RL: CAT (Catalyst use); USES (Uses)  
 (radiation-sensitive polysiloxane resin composition)  
 IT 474559-53-0P 474559-54-1P 474559-55-2P 474559-56-3P  
 474559-57-4P 474559-58-5P 474559-59-6P 474657-62-0P  
 474657-63-1P 474657-64-2P 474657-65-3P 474657-66-4P  
 474657-67-5P 474657-68-6P 474657-69-7P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);  
 PRP (Properties); PREP (Preparation); USES (Uses)  
 (radiation-sensitive polysiloxane resin composition)  
 IT 75-75-2, Methanesulfonic acid 78-10-4, Tetraethoxysilane  
 110-01-0 328-70-1, 1-Bromo-3,5-bis(trifluoromethyl)benzene  
 355-75-9, Decafluorocyclohexene 363-72-4, Pentafluorobenzene  
 402-43-7, 1-Bromo-4-(trifluoromethyl)benzene 461-96-1,  
 1-Bromo-3,5-difluorobenzene 559-40-0, Octafluorocyclopentene  
 998-30-1, Triethoxysilane 2031-67-6, Triethoxymethylsilane  
 2367-76-2, 1-Bromo-2,4,6-trifluorobenzene 4270-70-6  
 4667-99-6, Chlorotriethoxysilane 20900-19-0, 1-Butoxynaphthalene  
 24424-99-5 64248-56-2, 1-Bromo-2,6-difluorobenzene 195057-79-5  
 196314-61-1 365568-55-4 406702-03-2 474516-10-4  
 474516-16-0 474516-18-2 474516-20-6 474516-22-8  
 474516-24-0 474516-26-2 474516-28-4 474516-33-1  
 474516-35-3 474516-55-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (radiation-sensitive polysiloxane resin composition)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L90 ANSWER 16 OF 19 HCPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2002:848227 HCPLUS  
 DOCUMENT NUMBER: 137:360309  
 TITLE: Radiation-sensitive positive resist compositions showing wide defocus latitude and less particle generation on storage  
 INVENTOR(S): Kodama, Kunihiro; Sato, Kenichiro  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 90 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002323767	A2	20021108	JP 2001-157366	2001 0525
US 2003017415	A1	20030123	US 2002-79414 <--	2002 0222
US 6858370 TW 548523	B2 B	20050222 20030821	TW 2002-91103178 <--	2002 0222
PRIORITY APPLN. INFO.:			JP 2001-48602 <--	A 2001 0223
			JP 2001-48783 <--	A 2001 0223
			JP 2001-48784 <--	A 2001 0223
			JP 2001-48880 <--	A 2001 0223
			JP 2001-157366 <--	A 2001 0525
			JP 2001-157367 <--	A 2001 0525

AB The compns., especially suited for deep-UV lithog., comprise acid generators containing triarylsulfonium salts and phenethylsulfonium salts, alicyclic hydrocarbon resins increasing alkali solubility upon reaction with acids, bases, and fluoro and/or silicone surfactants,. The compns. may contain OH-bearing and -free solvent mixts.

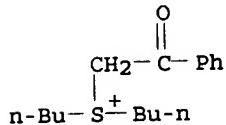
IT 474510-73-1 474510-75-3  
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)  
 (photoacid generators; radiation-sensitive pos.  
 resist compns. showing wide defocus latitude and less  
 particle generation on storage)

RN 474510-73-1 HCAPLUS  
 CN Sulfonium, dibutyl(2-oxo-2-phenylethyl)-, salt with  
 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanесulfonic acid (1:1) (9CI)  
 (CA INDEX NAME)

CM 1

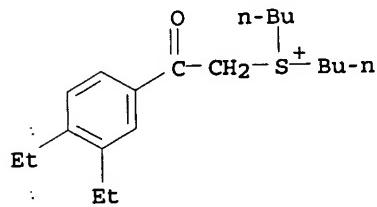
CRN 45187-15-3  
 CMF C4 F9 O3 S $-O_3S-(CF_2)_3-CF_3$ 

CM 2

CRN 19023-62-2  
 CMF C16 H25 O S

RN 474510-75-3 HCAPLUS  
 CN Sulfonium, dibutyl[2-(3,4-diethylphenyl)-2-oxoethyl]-, salt with  
 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanесulfonic acid (1:1) (9CI)  
 (CA INDEX NAME)

CM 1

CRN 474510-74-2  
 CMF C20 H33 O S

CM 2

CRN 45187-15-3  
 CMF C4 F9 O3 S $-O_3S-(CF_2)_3-CF_3$ 

IC ICM G03F007-039

CC ICS C08K005-00; C08K005-36; C08L101-00; G03F007-004; H01L021-027  
 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 38, 76

IT Positive photoresists  
 (chemical amplified, deep-UV-sensitive; radiation-sensitive  
 pos. resist compns. showing wide defocus  
 latitude and less particle generation on storage)

IT Surfactants  
 (radiation-sensitive pos. resist compns.  
 showing wide defocus latitude and less particle generation on  
 storage)

IT Polysiloxanes, uses  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered  
 material use); USES (Uses)  
 (surfactants; radiation-sensitive pos. resist  
 compns. showing wide defocus latitude and less particle  
 generation on storage)

IT 66003-78-9 144317-44-2 177034-80-9 241806-75-7 258872-05-8  
 284474-28-8 301664-71-1 338445-24-2 398141-18-9  
 398141-19-0 398141-23-6 414911-37-8 421555-71-7  
 421555-72-8 454471-07-9 454471-11-5 454471-15-9  
 454471-16-0 474510-73-1 474510-75-3  
 474510-76-4  
 RL: CAT (Catalyst use); TEM (Technical or engineered material  
 use); USES (Uses)  
 (photoacid generators; radiation-sensitive pos.  
 resist compns. showing wide defocus latitude and less  
 particle generation on storage)

IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl  
 methacrylate copolymer 391232-36-3P 398140-57-3P  
 398140-88-0P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (radiation-sensitive pos. resist compns.  
 showing wide defocus latitude and less particle generation on  
 storage)

IT 484-47-9, 2,4,5-Triphenylimidazole 3040-44-6,  
 1-Piperidineethanol 6674-22-2, DBU 19293-63-1,  
 Dicyclohexylmethylamine 19600-49-8, Triphenylsulfonium acetate  
 24544-04-5, 2,6-Diisopropylaniline  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered  
 material use); USES (Uses)  
 (radiation-sensitive pos. resist compns.  
 showing wide defocus latitude and less particle generation on  
 storage)

IT 96-48-0,  $\gamma$ -Butyrolactone 97-64-3, Ethyl lactate  
 108-94-1, Cyclohexanone, uses 110-43-0, 2-Heptanone 763-69-9  
 1320-67-8, Propylene glycol methyl ether 84540-57-8, Propylene  
 glycol methyl ether acetate 288303-55-9 364736-22-1  
 391613-77-7 398140-36-8 398140-38-0 398140-40-4  
 398140-43-7 398140-45-9 398140-47-1 398140-48-2  
 398140-50-6 398140-52-8 398140-55-1 398140-59-5  
 398140-60-8 398140-62-0 398140-64-2 398140-65-3  
 398140-68-6 398140-69-7 398140-71-1 398140-72-2  
 398140-73-3 398140-74-4 398140-75-5 398140-76-6  
 398140-77-7 398140-78-8 398140-79-9 398140-80-2  
 398140-81-3 398140-82-4 398140-84-6 398140-85-7  
 398140-86-8 398140-87-9 398140-89-1 398140-91-5  
 398140-92-6 398140-93-7 398140-94-8 398140-95-9  
 398140-97-1 398140-98-2 398140-99-3 398141-00-9  
 398141-03-2 398141-04-3 398141-06-5 398141-08-7  
 398141-10-1 398141-11-2 398141-13-4 398141-14-5  
 398141-16-7 405509-18-4 405509-19-5 405509-29-7  
 405509-30-0  
 RL: TEM (Technical or engineered material use); USES (Uses)

(radiation-sensitive pos. resist compns.  
showing wide defocus latitude and less particle generation on  
storage)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08  
RL: MOA (Modifier or additive use); TEM (Technical or engineered  
material use); USES (Uses)  
(surfactants; radiation-sensitive pos. resist  
compns. showing wide defocus latitude and less particle  
generation on storage)

L90 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:848220 HCAPLUS  
DOCUMENT NUMBER: 137:360306  
TITLE: Radiation-sensitive positively working  
photosensitive composition  
INVENTOR(S): Kodama, Kunihiro; Sato, Kenichiro  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 92 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 4  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002323758	A2	20021108	JP 2001-157367	2001 0525
US 2003017415	A1	20030123	US 2002-79414	2002 0222
US 6858370	B2	20050222	JP 2001-48783	A 2001 0223
PRIORITY APPLN. INFO.:			JP 2001-48602	A 2001 0223
			JP 2001-48784	A 2001 0223
			JP 2001-48880	A 2001 0223
			JP 2001-157366	A 2001 0525
			JP 2001-157367	A 2001 0525

AB The composition comprises (A) acid generator sensitive to actinic ray or radiation, (B) (poly)alicyclic hydrocarbon polymer which becomes alkali soluble by acid decomposition, (C) basic compound, and (D) fluoro and/or silicone surfactant, where the acid generator contains  $\geq 1$  compound having a phenacyl sulfonium salt structure and  $\geq 1$  nonarom. sulfonium salt. The composition

provides a photoresist having high resolution and wide defocus latitude by exposure with a ring-shaped light source and a photoresist having good pattern profile by exposure with a half-tone phase-shift mask. Generation of particles under storage of the composition is suppressed.

IT 474510-73-1 474510-75-3

RL: TEM (Technical or engineered material use); USES (Uses)  
(acid generator; radiation-sensitive pos. working  
photosensitive composition for high resolution and storage stability)

RN 474510-73-1 HCAPLUS

CN Sulfonium, dibutyl[2-oxo-2-phenylethyl]-, salt with  
1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
(CA INDEX NAME)

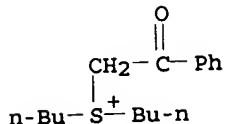
CM 1

CRN 45187-15-3  
CMF C4 F9 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

CM 2

CRN 19023-62-2  
CMF C16 H25 O S

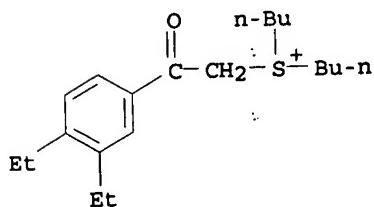


RN 474510-75-3 HCAPLUS

CN Sulfonium, dibutyl[2-(3,4-diethylphenyl)-2-oxoethyl]-, salt with  
1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI)  
(CA INDEX NAME)

CM 1

CRN 474510-74-2  
CMF C20 H33 O S



CM 2

CRN 45187-15-3  
CMF C4 F9 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

IC ICM G03F007-004  
 ICS G03F007-004; G03F007-039; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 IT Positive photoresists  
 (radiation-sensitive pos. working photosensitive composition for high resolution and storage stability)  
 IT 160481-39-0 171292-12-9 299416-57-2 301153-78-6  
 340986-46-1 347193-28-6 371921-65-2 383367-32-6  
 398141-21-4 414911-37-8 414911-52-7 454471-07-9  
 454471-11-5 454471-15-9 454471-16-0 454471-23-9  
 455521-76-3 455521-85-4 455521-89-8 474276-93-2  
 474510-72-0 474510-73-1 474510-75-3  
 474510-76-4 474510-79-7 474510-82-2 474510-86-6  
 474510-92-4 474510-98-0 474511-05-2 474511-06-3  
 474511-08-5 477328-06-6  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (acid generator; radiation-sensitive pos. working  
 photosensitive composition for high resolution and storage stability)  
 IT 70-11-1, Phenacyl bromide 110-01-0,  
 Tetrahydrothiophene 1493-13-6, Trifluoromethanesulfonic acid  
 1763-23-1, Perfluorooctanesulfonic acid 5469-26-1, 1-  
 Bromo-3,3-dimethyl-2-butanone 29420-49-3, Potassium  
 perfluorobutanesulfonate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (radiation-sensitive pos. working photosensitive composition for  
 high resolution and storage stability)

L90 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:354010 HCAPLUS  
 DOCUMENT NUMBER: 136:361837  
 TITLE: Polymers and photoresist compositions for  
 short wavelength photolithographic imaging  
 INVENTOR(S): Taylor, Gary N.; Szmanda, Charles R.  
 PATENT ASSIGNEE(S): Shipley Company, L.L.C., USA  
 SOURCE: U.S. Pat. Appl. Publ., 8 pp.  
 CODEN: USXXCO

DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1

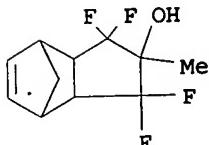
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2002055060	A1	20020509	US 2001-948459	2001 0908
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US 6749986	B2	20040615	US 2000-231046P	P 2000 0908
PRIORITY APPLN. INFO.:				
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AB	-----	-----	-----	-----
AB	The present invention relates to polymers as a resin component for photoresist compns., particularly chemical-amplified pos .-acting photoresist compns. Polymers and resists of	-----	-----	-----

the invention are particularly useful for imaging with short wavelength radiation, such as sub-200 nm and preferably about 157 nm. Polymers of the invention contain one or more groups alpha to an acidic site that are substituted by one or more electron-withdrawing groups.

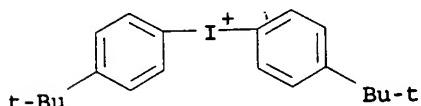
- IT 422307-88-8DP, reaction product with chloromethyl ethoxyethyl ether  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (chemical-amplified pos. photoresist compns.  
 for vacuum-UV photolithog. imaging)
- RN 422307-88-8 HCPLUS  
 CN 4,7-Methano-1H-inden-2-ol, 1,1,3,3-tetrafluoro-2,3,3a,4,7,7a-hexahydro-2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

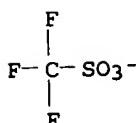
CRN 422307-87-7  
 CMF C11 H12 F4 O

- IT 84563-54-2  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photoacid generator; chemical-amplified pos.  
 photoresist compns. for vacuum-UV photolithog. imaging)
- RN 84563-54-2 HCPLUS  
 CN Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 61267-44-5  
 CMF C20 H26 I

CM 2

CRN 37181-39-8  
 CMF C F3 O3 S

IC ICM G03F007-039  
 INCL 430270100  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and

Other Reprographic Processes)  
 Section cross-reference(s): 35, 38  
 ST chem amplified pos photoresist vacuum UV  
 photolithog polymer resin  
 IT Positive photoresists  
 (chemical-amplified, vacuum-UV; polymers and photoresist compns.  
 for short wavelength photolithog. imaging)  
 IT 69602-59-1DP, reaction product with norbornene tricycloic  
 tetrafluoroalc. homopolymer 422307-88-8DP, reaction  
 product with chloromethyl ethoxyethyl ether  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (chemical-amplified pos. photoresist compns.  
 for vacuum-UV photolithog. imaging)  
 IT 84563-54-2  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photoacid generator; chemical-amplified pos.  
 photoresist compns. for vacuum-UV photolithog. imaging)  
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L90 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 2001:803902 HCAPLUS  
 DOCUMENT NUMBER: 136:126408  
 TITLE: Transparent resins for 157-nm lithography  
 AUTHOR(S): Dammel, Ralph R.; Sakamuri, Raj; Romano, Andrew R.; Vicari, Richard; Hacker, Cheryl; Conley, Will; Miller, Daniel A.  
 CORPORATE SOURCE: AZ Electronic Materials, Clariant Corporation, Somerville, NJ, USA  
 SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2001), 4345(Pt. 1, Advances in Resist Technology and Processing XVIII), 350-360  
 CODEN: PSISDG; ISSN: 0277-786X  
 PUBLISHER: SPIE-The International Society for Optical Engineering  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB The development of sufficiently transparent resin systems is one of the key elements required for a successful and timely introduction for 157 nm lithog. This paper reports on the Simple Transmission Understanding and Prediction by Incremental Dilution (STUPID) model, a quick back-of-the-envelope increment scheme to estimate the absorption of polymers at 157 nm. A number of promising candidate resins based on norbornenes are discussed, and results with a first 157 nm resin system developed at the University of Austin are presented. The new system is based on copolymers of norbornene-5-methylenehexafluoroisopropanol (NMHFA) and t-Bu norbornene carboxylate (BNC), formulated with an acetal additive obtained by copolymer of t-Bu norbornene-5-trifluoromethyl-5-carboxylate (BNTC) with carbon monoxide. Lithog. performance of this system extends to 110 nm dense features using standard illumination and a binary mask, or 80 nm semi-dense and 60 nm isolated features with a strong phase shift mask. The dry etch resistance of this resist is found to be slightly lower than APEX-E DUV resist for polysilicon but superior to it for oxide etches.

IT 144317-44-2, Triphenylsulfonium nonaflate  
 370102-72-0  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (fluorine-containing norbornene transparent resins for 157-nm lithog.)

RN 144317-44-2 HCAPLUS  
 CN Sulfonium, triphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-

butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

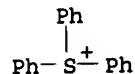
CM 1

CRN 45187-15-3  
CMF C4 F9 O3 S

-O<sub>3</sub>S-(CF<sub>2</sub>)<sub>3</sub>-CF<sub>3</sub>

CM 2

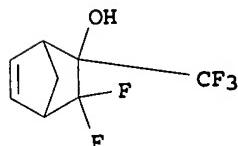
CRN 18393-55-0  
CMF C18 H15 S



RN 370102-72-0 HCPLUS  
CN Bicyclo[2.2.1]hept-5-en-2-ol, 3,3-difluoro-2-(trifluoromethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 370102-71-9  
CMF C8 H7 F5 O



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38

IT 88403-53-6 144317-44-2, Triphenylsulfonium nonaflate  
302580-86-5 357397-06-9 357397-07-0 367524-27-4  
370099-14-2 370102-69-5 370102-72-0 370102-74-2  
370102-75-3 370102-77-5 370102-79-7 370102-81-1  
370102-83-3

RL: TEM (Technical or engineered material use); USES (Uses)  
(fluorine-containing norbornene transparent resins for 157-nm  
lithog.)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

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